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U.S. Department of the Interior  
Bureau of Land Management

**Draft**

Bakersfield District  
Bishop Resource Area  
787 N. Main Street, Suite P  
Bishop, California 93514

September 1990



# Bishop Resource Management Plan and Environmental Impact Statement



As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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United States Department of the Interior  
BUREAU OF LAND MANAGEMENT  
CALIFORNIA STATE OFFICE  
Federal Building, Room E-2841  
2800 Cottage Way  
Sacramento, CA 95825



Dear Reviewer:

Enclosed for your review and comment is the Bureau of Land Management's Draft Resource Management Plan (RMP) and Draft Environmental Impact Statement (EIS) for the Bishop Resource Area. This document outlines four alternatives to manage public lands in the resource area. Three transmission line corridor alternatives are also studied. These alternatives resolve the management issues identified early in the planning process. The selected alternative will guide Bureau management of 750,000 acres of public land. Currently, Alternative 4 is our preferred alternative. A new east-west transmission line corridor is also proposed.

Comments concerning the Draft Plan/EIS will be considered in preparing the Final Plan and EIS. Public meetings (times, dates, and places to be announced later) will be held in October to explain draft decisions and to receive comments.

All comments must be received by January 17, 1991. Please send your comments to:

Area Manager  
Bureau of Land Management  
787 N. Main Street, Suite P  
Bishop, CA 93514

Sincerely,

Edward L. Hastey  
State Director

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# **Bishop Resource Management Plan and Environmental Impact Statement**

Responsible agency: Bureau of Land Management, Bakersfield District Office

Cooperating agencies: USDA Forest Service, Inyo National Forest, for the utility corridor portion of the plan and EIS.

Abstract: The Draft Resource Management Plan describes comprehensive land and resource direction for the Bishop Resource Area, Bakersfield District, California.

The Environmental Impact Statement analyzes four alternatives scenarios (including the preferred alternative), ranging from an emphasis on consumptive uses to an emphasis on protection of natural values.

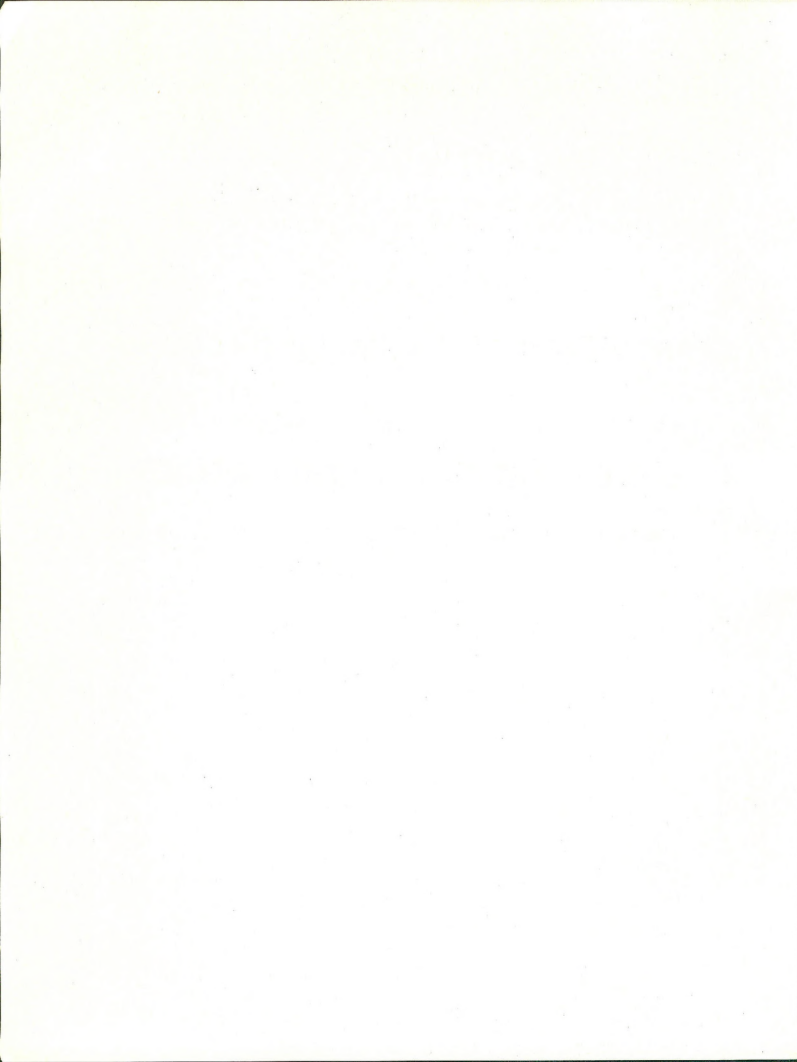
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Comments must be received by: January 17, 1991





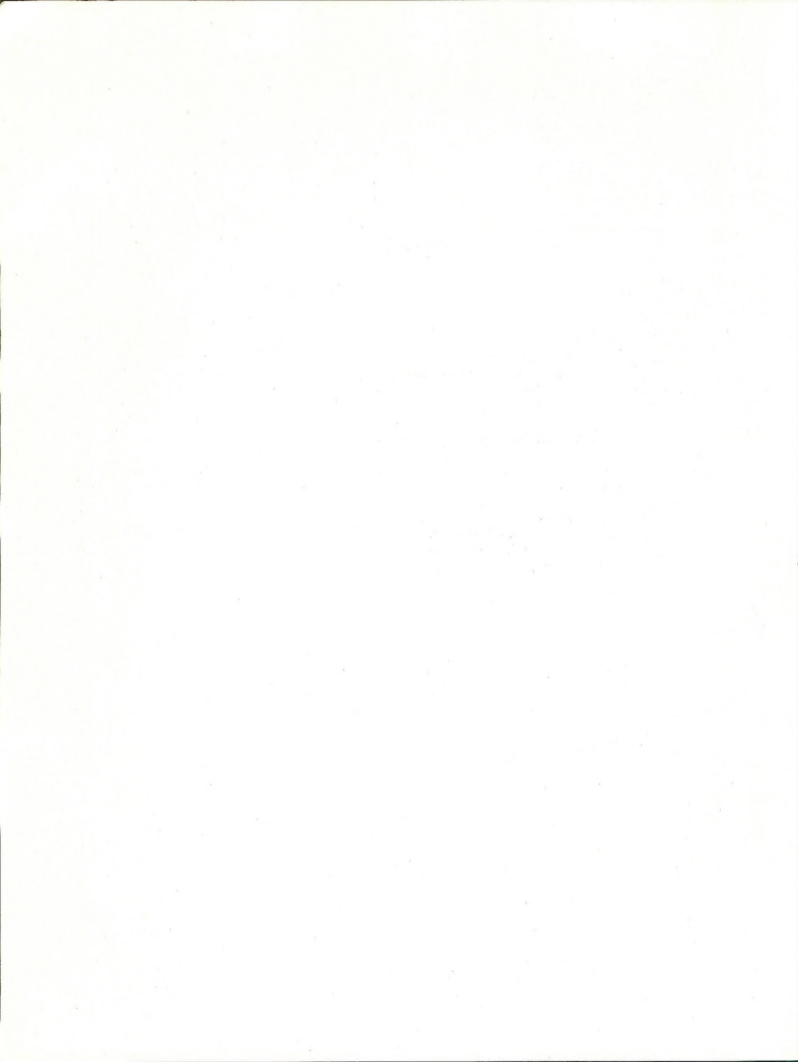
**DRAFT**  
**BISHOP**  
**RESOURCE MANAGEMENT PLAN**  
**AND**  
**ENVIRONMENTAL IMPACT STATEMENT**  
  
**U.S. DEPARTMENT OF THE INTERIOR**  
**BUREAU OF LAND MANAGEMENT\***



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State Director  
California

\*The USDA Forest Service, Inyo National Forest is a Cooperating Agency for the transmission line corridor portion of this plan and EIS.





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# Summary



*Lizard at Antelope Mountain Area.*



## Introduction

The Bishop Resource Management Plan will identify management direction of Bureau lands for the next 10-20 years. Located in the eastern Sierra region of California, the Bishop Resource Area includes 750,000 acres of BLM land and 9,000 acres of minerals under private land in Inyo and Mono Counties. These lands are further described in Chapters 1 and 3.

This management plan is guided by BLM planning regulations issued under authority of the Federal Land Policy and Management Act (FLPMA) of 1976.

The plan focuses on four issues - recreation, wildlife, minerals, and land ownership and authorizations. Several additional management concerns also addressed include cultural resources, fuelwood harvesting, livestock grazing, and fire suppression.

A range of alternative management scenarios was analyzed. These include 1) Continuation of Present Management, 2) Custodial Management, 3) Natural Resource Enhancement, and 4) The Preferred Alternative. Under Alternative 2, environmental values were minimally protected as required by applicable laws, regulations, and policies. Alternatives 1, 3, and 4 provide varying levels of protection and enhancement for many resources. A description of each alternative can be found in Chapter 2.

The decisions for each alternative were analyzed for their environmental consequences. The Preferred Alternative represents our best estimate of multiple use management for Bureau lands in the Bishop Resource Area. This alternative comprises prescriptions selected from the other three alternatives. The environmental consequences (impacts) of all four alternatives are described in Chapter 4. A narrative summary of alternatives, impacts, and proposed actions for each management area is described below. Transmission line corridor alternatives are also discussed. Tables S-1 and S-2 summarize the impacts of the alternatives.

### Coleville Management Area

Significant management actions for the range of alternatives include land disposals which vary from 0 to 407 acres; land acquisitions which vary from 0 to 1,750 acres; visual resource management which ranges from a predominant VRM Class III to a predominant VRM Class II. Vehicle use would be limited to designated roads and trails (all alternatives). Wildlife actions would range from minimal protection of various habitat types to desired plant community (DPC) management on 8,700 acres. Other wildlife actions vary from no

special management of aquatic and terrestrial habitats to yearlong of these areas. An area of Critical Environmental Concern (ACEC) is proposed for the Slinkard Valley. Livestock grazing restrictions vary geographically for each alternative. Minerals actions range from open mineral development to consolidation of all salable mineral sites into one pit. Locatable mineral activity could occur throughout the area. Other actions include commercial/noncommercial fuelwood cutting, full wildfire suppression techniques, using fuelwood cutting to meet wildlife habitat diversity goals and no blading in old growth timber areas to control wildfires.

The most significant impacts of the alternatives include improvement of wildlife habitat and visual resources from private land acquisition; loss of old growth conifers in Slinkard Valley and several associated sensitive species. Other impacts are improvement of various vegetation types through DPC management; loss of deer winter range carrying capacity; elimination of livestock grazing on 3 allotments; and effective elimination of salable mineral development from most of the management area.

The proposed action includes disposal of a few acres of Bureau lands to support the community of Walker. Vehicle use is restricted to designated roads and trails. Other actions are acquisition of 960 acres for mule deer winter range; improvement of several vegetation types through DPC management on 8,700 acres; and improvement of habitat to reintroduce Lahontan cutthroat trout. In addition, livestock grazing would be eliminated from Allotments 6063 and 6066 while maintaining currently grazed areas. Additional prescriptions are the Slinkard ACEC; designation, bulldozer prohibition for fire suppression in old growth timber stands, and locatable mineral exploration and development on all Bureau land.

### Bridgeport Valley Management Area

Actions under the different alternatives would vary by program. Land acquisitions to benefit riparian areas and visual resources would range from 0 to 2,175 acres. Disposals of public land to provide for residential expansion would vary from 0 acres to 506 acres. Visual resource management classes would include both VRM Class II and Class III with the Conway Summit area proposed for VRM Class I. Recreation emphasis would range from limited protection and interpretation of the Travertine Hot Springs ACEC to exploring opportunities for cooperative management of the ACEC. An emphasis is placed on providing dispersed semi primitive recreation opportunities-hunting, wildlife viewing, hiking, etc. Portions of three creeks are recommended to be studied for Wild and Scenic River eligibility. Wildlife actions would range from

continued limited protection of key areas to the implementation of yearlong and seasonal protection measures for sage grouse and mule deer. Wildlife actions also vary from minimal protection of vegetation communities to implementing desired plant community (DPC) management on 2,510 acres. Grazing practices would range from continuation of present management to basing livestock management practices on DPC goals. It is recommended that no grazing be allowed in the proposed Conway Summit ACEC. Mineral actions range from material site development to no development. Bureau lands would be open for mineral entry except in the Dogtown area and a proposed withdrawal in the Travertine Hot Springs ACEC. Geothermal development would range from development to a 1 mile prohibition around the Travertine Hot Springs ACEC. Fuelwood cutting would range from limited availability to allowing it only where it would enhance wildlife habitat. Fire suppression would range from full suppression of all wildfires to limited suppression. In Alternatives 3 and 4 the Conway Summit Area would be recommended as an Area of Critical Environmental Concern (ACEC).

In Alternatives 1 and 2, wildlife habitat and vegetative communities would be negatively impacted to varying degrees. Traditional uses of the public lands (livestock grazing, mineral entry, and lands actions) would be allowed, with fewer restrictions in Alternative 2. In these alternatives a limited emphasis would be placed on improving recreation opportunities and visual resource management. In Alternatives 3 and 4 the wildlife habitat and vegetative communities would improve from seasonal and yearlong protection measures, and the implementation of DPC management. Recreation management would be enhanced with the emphasis placed on dispersed semi-primitive opportunities. Special areas include Travertine Hot Springs ACEC and the proposed Conway Summit ACEC. Traditional uses of Bureau lands would continue with more restrictions in Alternatives 3 and 4. Grazing would be managed to meet DPC goals, mineral material sales would be eliminated and geothermal development would be restricted within 1 mile of the Travertine Hot Springs ACEC.

The proposed action includes the following: dispose of 270 acres to allow for residential and community expansion, acquire 1,338 acres to enhance wildlife and visual resource values, enhance dispersed recreation opportunities, improve management of the Travertine Hot Springs ACEC, designate the Conway Summit area as an ACEC to protect the scenic and wildlife values, study three creeks for Wild and Scenic River eligibility, implement seasonal and yearlong protective measures for mule deer and sage grouse, work towards meeting DPC goals, allow fuelwood cutting

where it will enhance wildlife habitat, and allow for full suppression of wildfires, while keeping heavy equipment out of sensitive areas.

## Bodie Hills Management Area

Significant management actions for the range of alternatives include land acquisitions which vary from 0 to 13,825 acres; visual resources management which varies from VRM Class III for most of the management area to VRM Class II and III for the management area. Vehicle use would be limited to designated roads and trails (all alternatives); management of the Bodie Bowl would vary from locatable mineral development and geothermal leasing restrictions to withdrawal of the Bodie Bowl from locatable minerals while allowing geothermal leasing with no surface occupancy; wildlife actions would range from minimal protection of several habitat types to DPC management on 55,580 acres. Additional wildlife actions include no improvement to improvement of aquatic habitat on 11 stream channels; no special management for sage grouse habitat to yearlong or seasonal protection of sage grouse areas within 2 miles of strutting grounds; and no special management for unique vegetation communities and wildlife habitats to yearlong protection and preservation of wildlife habitat diversity. Dispersed recreation use is encouraged within the Bodie Mountain Area of Critical Environmental Concern (ACEC). Livestock grazing actions would vary from current stocking rates and seasons of use to basing livestock management practices on DPC goals. The area outside the Bodie Bowl is open to locatable mineral development. Wildfire suppression varies from full to limited suppression.

The most significant impacts of the alternatives include improvement of wildlife habitat and visual resources from private land acquisition and a more restrictive VRM class along the main travel routes. Other impacts include mineral losses in Travertine Hot Springs and Bodie Bowl; maintaining the integrity of the Bodie National Historic Landmark and the Dog Town historic site; and severe degradation of the scenic landscape in the Bodie Bowl and Potato Peak areas due to mineral development. Additional impacts include loss of sage grouse and mule deer habitat carrying capacity; loss of a formally listed (USF&WS) species (Lahontan Cutthroat trout) from Bodie Creek; improvement of several vegetation types through DPC management; and negative impacts to livestock grazing.

The proposed action includes land acquisition to enhance and protect biological and cultural resources; vehicle use on designated roads and trails with some roads closed or rerouted in wildlife concentration areas; management of 53,580 acres within the DPC guide-



lines; improvement of aquatic habitat on several streams; encouragement of conversion from cattle to sheep on all grazing allotments; designation of the Bodie Bowl ACEC; and prohibition of bulldozer use for fire suppression within VRM Class I and II areas.

## Granite Mountain Management Area

Significant management area prescriptions for the range of alternatives include lands acquisitions which range from 0 to 10,980 acres; visual resource management which ranges from VRM Class III to a predominant VRM Class II; vehicle use would be limited under all alternatives; wildlife action would range from minimal protection of habitat types to DPC management on 25,675 acres. Additional wildlife actions range from no improvement to major improvement of Adobe Creek for trout reintroduction, and no protection to yearlong protection of Jeffrey pine at Dry Creek. Minerals actions vary from open mineral development to restrictions within a 1 mile buffer around the Mono Basin National Scenic Area. Grazing includes unrestricted livestock use to livestock exclusion in the Larkin Lake and Frazier Canyon Allotments.

The most significant impacts of these alternatives include improved habitat and visual resources from private land acquisitions; a loss of Jeffrey pine at Dry Creek to timber harvesting; some loss of dispersed camping and OHV access; major improvements to habitat types from DPC management and livestock grazing restrictions; improvement of trout habitat at Adobe Creek; and a salable mineral loss due to buffer restrictions around the Mono Basin National Scenic Area.

The proposed action includes 4,635 acres of private land acquisitions; a VRM Class II for most of the management area; an emphasis to manage dispersed recreation for semi-primitive motorized and non-motorized experiences; vehicles would be limited to designated roads and trails; yearlong protection of Jeffrey pine at Dry Creek; DPC management on over 17,000 acres; improvement of Adobe Creek for trout reintroduction; exclusion of grazing at Larkin Lake and Frazier Canyon; and all Bureau lands would be open to mineral development.

## Long Valley Management Area

Significant actions for the range of alternatives include: land disposal of 0 to 281 acres; land acquisition of 0 to 2,630 acres; maintaining visual resource quality at VRM II standards for all alternatives except Alternative 2 which is VRM III; maintaining or enhancing existing recreational opportunities; maintaining wildlife habitat

to substantial habitat improvements related to DPC management and close certain areas for material and/or geothermal development except in Alternative 2 which has no closure.

The most significant impacts of the actions for the range of alternatives is as follows. Disposal of 281 acres (Alternative 2) would eliminate management problems associated with 9 parcels which are isolated by U.S. Highway 395 and would eliminate a small amount of wildlife habitat. Retention would continue management problems. Land acquisition would improve control of vital habitat areas for mule deer, sage grouse, diving beetle, and Owens dace. Maintaining VRM II standards for visual resources would protect an already high quality visual area with benefits extending mostly to recreation. These standards would increase costs of any geothermal/material developments due to mitigation costs. Excellent recreational opportunities already exist but would be enhanced in Alternatives 3 and 4. Facilities for camping/interpretation and development for mountain biking would add to the local economy as use within the Long Valley area increases. Negative impacts to wildlife species resulting from increased recreational use would be mitigated. Improvement of wildlife habitat would increase costs of livestock grazing, mineral/geothermal development and recreation. Attainment of DPC goals would increase wildlife populations which would improve recreation and hunting experiences, with an overall economic benefit to the local economy. This benefit would be diminished if geothermal development is prohibited due to habitat impacts. Local economy losses may result from closure of deer migration areas to geothermal development. Closure of material pits would be a temporary impact until new pit locations are established.

The proposed action includes no disposals; acquisition of 555 acres; a scenic byway designation; seasonal restrictions on snowmobile use in sage grouse habitat; VRM Class II for the entire MA; DPC management on 1,745 acres; seasonal protection of sage grouse wintering areas and yearlong protection of a deer migration corridor; no fuelwood harvesting; and restricted use of heavy equipment for fire suppression in key viewsheds.

## Benton Management Area

Significant management area prescriptions for the range of alternatives include land disposals which range from 0 to 11,551 acres and private land acquisitions which range from 0 to 2,702 acres. Visual resource management ranges from VRM Class IV to a more restrictive VRM Class II. Recreation manage-



ment actions range from minimal management to provisions of visitor services, establishment of a scenic byway, designation of a Wild and Scenic study river, and an overall emphasis to maintain or enhance semi-primitive physical settings for dispersed motorized or nonmotorized recreation uses. Vehicle use would be limited in all alternatives. Wildlife actions range from continuance of Fish Slough ACEC management to yearlong protection of threatened and endangered species habitats, DPC management on 6,990 acres, and 5 new habitat developments. Minerals actions include maintenance of mineral withdrawals on petroglyphs sites to geothermal leasing and salable minerals prohibitions in the South Tableland and around thermal water sources. Grazing restrictions vary by alternative.

The most significant impacts of these alternatives include visual degradation and mule deer habitat losses from development or disposal; improved recreation opportunities from withdrawal of salable minerals, environmental interpretation, and an increased emphasis on semi-primitive dispersed management; some loss of OHV access and dispersed camping opportunities; improved protection of visual resources in the Volcanic Tableland; improvement of riparian/aquatic habitats; improvements to threatened and endangered species populations from yearlong protection and private land acquisitions; continued protection of petroglyph sites by existing minerals withdrawals; and a 50% loss of potential salable minerals.

The proposed action includes 5,582 acres of disposals; a VRM II Class for South Tableland and the White Mountain alluvial fans, and a VRM III Class for the remainder of the area except for Blind Springs Hill which is a VRM IV class; an emphasis to manage dispersed recreation for semi-primitive motorized and non-motorized opportunities and experiences; vehicle use would be limited to designated roads and trails; seasonal protection for sage grouse and mule deer; DPC management on 6,990 acres; yearlong protection of threatened and endangered species as well as the Fish Slough ACEC; reintroduction of threatened and endangered species at 5 new sites; maintenance of mineral withdrawals at existing petroglyph sites; a prohibition of removal of salable minerals in South Tableland; exclusion of livestock grazing at the Fish Slough Allotment 6004; and making public lands available for locatable mineral development except for the petroglyph sites.

## Owens Valley Management Area

The most significant actions for the range of alternatives includes: disposal of 0 to 3,152 acres (Alternative 2); land acquisition of 0 to 4,831 acres (Alternative 3); retain a visual resource quality of VRM III for the valley except for Alabama Hills, Red Mountain, Crater Mountain which is VRM II, and VRM IV for Poleta Canyon; maintain the Alabama Hills integrity but in Alternatives 3 and 4 increase recreational uses within Alabama Hills to include camping facilities and interpretation for natural resources and cultural features; maintaining wildlife habitat improvement, but in Alternatives 3 and 4 there are substantial improvements relating to DPC goals; and closure of Goodale/Tuttle Creek campground to mineral entry (Alternative 1) is replaced with closures of Alabama Hills for mineral entry and materials and Crater Mountain for mineral entry and geothermal development (Alternative 3). In Alternative 4 Alabama Hills is closed to mineral material only.

The most significant impacts of the actions for the range of alternatives is as follows. Disposals would allow for community services, agricultural use, and residential expansion. This would give a small boost to the local economy and provide an exchange base for acquisition of more important parcels. A small loss of wildlife habitat would result. Land acquisitions for recreation, scenic, and vital wildlife habitat would provide protection of these resources from private development. Benefits to the local economy would result through increased recreational use and tourism. Improvement of wildlife habitat and resulting population increases for deer and fisheries eventually benefit the local economy through increased recreational use. Retention of visual quality supports existing quality scenery aiding in maintaining high recreational use. Additional camping facilities, interpretive sites and an educational center all contribute to increase recreational use and income into the local economy. The substantial improvements in wildlife habitat/populations improve recreational uses such as hunting, fishing and sightseeing. Attainment of DPC goals will increase costs of livestock grazing. Mineral entry, mineral material, and geothermal closures might negatively impact the local economy. The impact would be slight since all areas have little or no current operations.

The proposed action includes disposal of 2,937 acres; acquisition of 4,066 acres; designation of the Crater Mountain ACEC; yearlong protection of the Alabama Hills; no grazing in 3 currently ungrazed allotments; VRM II in the Alabama Hills, Red Mountain, and Crater Mountain areas and VRM III in the rest of the area except Poleta Canyon which is VRM IV; 4 scenic

byway designations; the establishment of an Environmental Education Center in Bishop; DPC management on 4,291 acres; numerous measures to maintain and improve wildlife habitat; no fuelwood harvesting and full fire suppression except in the Alabama Hills and deer winter range.

## South Inyo Management Area

The significant overriding management area prescription for the range of alternatives would be management of the proposed South Inyo Wilderness (27,420 acres) - almost 50% of public lands in the management area. Prescriptions outside the proposed wilderness area include a 7 acre acquisition at Swansea and disposals ranging between 82 and 2,350 acres. Visual resources would be managed as VRM Class I in the proposed wilderness and between VRM Class II and III elsewhere for all the alternatives. While the proposed wilderness would be managed for primitive settings and experiences, recreation management elsewhere ranges from minimal actions to provisions for visitor services, establishment of a scenic byway and an overall emphasis to maintain or enhance semi-primitive physical settings for motorized and non-motorized recreation uses. Vehicle use would be prohibited in the proposed wilderness but limited elsewhere. Wildlife actions range from yearlong protection of Bristlecone pines to DPC management on 7,669 acres. Mineral actions range from all public lands available to mineral entry to a mineral withdrawal on 22,618 acres.

The most significant impacts of these alternatives include some visual resource degradation from disposals; protection of historic values at Swansea; enhancement of visual resources and semi-primitive recreation values from mineral withdrawals outside the proposed wilderness area; some loss of OHV access and dispersed camping opportunities; an improvement in pinyon-juniper vegetative communities; a loss of minerals development opportunities; and loss of salable minerals potential in the management area.

The proposed action includes an 82 acre disposal of Bureau lands; a 7 acre acquisition of private land at Swansea; VRM Class I management of the proposed wilderness area; VRM Class II outside the proposed wilderness; an emphasis to manage dispersed recreation outside the proposed wilderness for semi-primitive motorized and non motorized experiences; establishment of a scenic byway; seasonal protection of a prairie falcon site in Long John Canyon; DPC management on 7,595 acres; an ACEC designation for Keynot Peak to protect Bristlecone pines; and a mineral withdrawal along a 1/8 mile corridor for the Pat Keyes trail outside the proposed wilderness.

## Owens Lake Management Area

Significant management area actions include land acquisitions which vary from 0 to 2,752 acres. Disposals would vary from 0 to 5,774 acres. Visual resource management would include VRM Class III and IV areas. Under all alternatives the Bureau would continue to support the interagency visitor center. Wildlife actions would vary from limited protection to yearlong protection of the elk calving areas, habitat improvement for big game, the western snowy plover, and other species. Livestock grazing would vary by alternative.

In Alternatives 1 and 2, wildlife habitat and vegetative communities would continue to be negatively impacted to varying degrees. Traditional uses of the public lands; (livestock grazing, mineral entry, and lands actions) would be allowed, with fewer restrictions in Alternative 2. In Alternatives 3 and 4 the conditions of wildlife habitat and vegetative communities would improve from yearlong protection measures, acquiring sensitive wildlife habitat, and the implementation of DPC goals. Geothermal leasing would be more restrictive in Alternatives 3 and 4. Fuelwood cutting would be eliminated in Alternatives 3 and 4.

The proposed action includes the following: acquire 584 acres to enhance wildlife habitat, manage visual resources for VRM Class III and IV, implement yearlong protective measures for tule elk calving areas, improve trout habitat on Braley Creek, allow geothermal leasing except in areas withdrawn for wildlife protection, no surface occupancy will be applied to leases in conflict with special status species, livestock grazing will be restricted, and fuelwood cutting will not be permitted.

## Transmission Line Corridor Alternative Areas

The RMP includes a transmission line corridor study that evaluates the impacts of designating existing transmission line routes and 3 east-west areas as transmission line planning corridors. Included in the study are Inyo National Forest System (NFS) lands east of and adjacent to the Bishop Resource Area. The Forest Service participated in the study as a cooperating agency. Based upon the study and this document, it will issue a separate Record of Decision regarding transmission line corridor designations on NFS lands.

*This section continues on page 14.*

**Table S-1. Cumulative Impact Summary**

	<b>Alternative 1</b>	<b>Alternative 2</b>
<b>Minerals</b>	<p>78% of the locateable minerals deposits and 61% of the saleable minerals deposits can be developed. Surface disturbance would affect 1,200 acres and 430 acres respectively.</p> <p>From 30% to 40% of lands classified as VRM II or designated for seasonal wildlife protection lie within areas of moderate to high geothermal potential. Compliance with stipulation will increase exploration and development costs by 30%-50%.</p>	<p>86% of the locateable minerals deposits and 88% of the saleable minerals deposits can be developed. Surface disturbance would affect 1,500 acres and 850 acres respectively.</p> <p>Saleable minerals prices are likely to increase to \$2.00/yard by 2000 with most development occurring within 1/2 mile of existing transportation corridors. Prices of locateables (particularly gold) will continue cyclic fluctuations. Environmental regulations and minerals policies will likely become standardized with other agencies through use of MOU's.</p>
<b>Recreation</b>	<p>Visual resources and recreation management would generally be compatible with adjoining agency land use plans and management.</p> <p>Overall region-wide trend of both National Forests and the Bureau would be to maintain or improve area scenic values. 22% of public land managed as VRM II, 69% as VRM III.</p> <p>The Bureau would emphasize fewer recreation related developments than either Forest, although it would maintain its existing programs and provide some improvements in site specific locations such as the Alabama Hills and the Traverline Hot Springs ACEC. User satisfaction would range from average to above average.</p>	<p>Visual resources and recreation management would be less compatible with adjoining agency land use plans and management.</p> <p>Overall, the Bureau would allow greater visual contrasts than the adjoining National Forests. 93% of public land managed as VRM III and IV.</p> <p>The Bureau would emphasize recreation management on a reactive basis as limited funding and priorities dictate. Mitigation of resource conflicts would be stressed. This would limit the full range of recreation potential area-wide. User satisfaction would range from average to below average.</p>

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### Alternative 3

68% of the locateable minerals deposits and 34% of the saleable minerals deposits can be developed. Surface disturbance would affect 565 acres and 150 acres respectively.

Saleable minerals prices are likely to increase to \$2.00/yard by 2000 with most development occurring within 1/2 mile of existing transportation corridors. Prices of locateables (particularly gold) will continue cyclic fluctuations. Environmental regulations and minerals policies will likely become standardized with other agencies through use of MOU's.

From 40% to 45% of lands classified as VRM I and II or designated for seasonal wildlife protection lies within areas of moderate to high geothermal potential.

Compliance with stipulations will increase exploration and development costs by 30%-50%.

About 70% of the 3-mile buffer zones of no leasing around the Mono Lake Scenic area lies within an area of high geothermal potential.

Visual resources and recreation management would be most compatible with adjoining agency land use plans and management.

Overall, the Bureau would allow less visual contrasts than Alternatives 1 and 2. 40% of public land managed as VRM II, 52% as VRM III.

The Bureau would emphasize a proactive recreation management program that optimizes the full potential of region-wide recreation opportunities to meet future increases in recreation use. User satisfaction would range from above average to high.

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### Alternative 4

70% of the locateable minerals deposits and 36% of the saleable minerals deposits can be developed. Surface disturbance would affect 685 acres and 140 acres respectively.

Saleable minerals prices are likely to increase to \$2.00/yard by 2000 with most development occurring within 1/2 mile of existing transportation corridors. Prices of locateables (particularly gold) will continue cyclic fluctuations. Environmental regulations and minerals policies will likely become standardized with other agencies through use of MOU's.

From 38% to 45% of lands classified as VRM I and II or designated for seasonal wildlife protection lies within areas of moderate to high geothermal potential.

Compliance with stipulations will increase exploration and development costs by 30%-50%.

Cumulative impacts of visual resources and recreation management would be the same as Alternative 3 except the proposed mineral withdrawal in the Bodie Bowl would not apply. Minerals development in the Bodie Bowl would be restricted according to standards and guidelines to prevent unnecessary and undue degradation. It is expected that impacts would be minimal.



**Table S-1. Cumulative Impact Summary (continued)**

	Alternative 1	Alternative 2
Recreation (cont.)	<p>Most significantly, minerals development in the Bodie Bowl would degrade scenic and recreation values.</p> <p>Significant Bureau lands that complement the area's scenic and recreation resources and are most affected by this alternative include the Alabama Hills, South Inyo, Crater Mountain, Volcanic Tableland, Long Valley, Bodie Bowl, and Sillkard Valley.</p>	<p>Most significantly, minerals development in the Bodie Bowl would degrade scenic and recreation values.</p> <p>Significant Bureau lands complementing the area's scenic resources most adversely affected by this alternative include the White Mountain alluvial fans, Long Valley, Conway Summit, Bodie Bowl, and Mono Basin.</p>
Wildlife	<p>Currently, sage grouse populations are significantly reduced from historic levels. At a minimum, sage grouse populations would be reduced 6%. Human developments would significantly degrade or remove large components of mule deer migration corridor and holding areas over the next 20 years affecting 4 major deer herds. Summer range for 25% of another deer herd would be significantly reduced in quality. Cumulative effects of water diversions, livestock grazing, highway expansion and mineral development would have a moderate negative impact on tule elk habitat conditions and population. Pronghorn habitat condition and population would undergo a moderate negative impact due to residential and mineral development, livestock grazing, recreational use and poor water distribution. Riparian and aquatic dependent resources would incur a slight decline in condition and productive potential primarily due to livestock grazing, diversion for power generation and water export from the eastern Sierra Nevada region. The majority of sensitive wildlife and plant species habitats would undergo a moderate to high negative impact due to a multitude of human uses and developments. The non-mobile species (e.g., springsnails found only at spring out-flow) habitat would be most likely to undergo damage or extirpation. The most biologically diverse vegetation type would bear</p>	<p>Regional impacts to sage grouse habitat and populations will add significantly to the loss or degradation of habitat on Bureau land for the two major grouse populations. At a minimum, quail populations would be reduced 6% region wide. Human developments would significantly degrade or remove large components of mule deer migration corridor/holding area affecting 5 major deer herds. A moderate to high negative impact to tule elk habitat and population condition due primarily to the vegetative effects of water diversion/export and concentration of disturbance in calving areas. Pronghorn habitat condition and population quality would incur a moderate to high negative impact primarily from agricultural development, community expansion, recreational use and livestock grazing. Riparian and aquatic dependent resources would experience a moderate decline in condition and productive potential primarily due to livestock grazing, diversion for power generation and water export from the region. The majority of the sensitive wildlife and plant species habitats, for those species which are only minimally or non-mobile, would sustain a majority of the moderate to high negative impacts. Additional species would be proposed for federal listing over the long term. The most biologically diverse vegetation types would experience slight</p>

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### Alternative 3

Most significantly a mineral withdrawal in the Bodie Bowl would help retain the scenic and recreation value integrity of area historic features. Mining claims with valid existing rights could still be developed and degrade historic values.

Significant Bureau lands that complement the area's scenic and recreation resources and are most benefitted by this alternative include Slinkard Valley ACEC, Conway Summit ACEC, Bodie Hills, Bodie Bowl, Volcanic Tableland, Crater Mountain ACEC, the Alabama Hills, and the South Inyos.

Regional consumptive uses of sage grouse areas would slightly degrade overall habitat quality and population conditions. Quail populations would be affected in a similar manner. This result would occur despite significant positive steps taken by the Bureau toward habitat improvement. The large volume of consumptive human uses of crucial mule deer habitat would regionally cause a slight to moderate degradation of population conditions and habitat carrying capacity. Significant improvement in deer habitat quality on Bureau land would ameliorate some region wide effects (e.g. Bureau habitat acquisition in migration corridors). Overall, Bureau actions would have slight to moderate positive impact on tule elk habitat condition. The cumulative affect of other factors like ground water and surface water export, and concentration of some actions in calving areas would have slight to moderate negative impact on elk population condition. Significant benefit to pronghorn and through key habitat acquisitions, water development, and a higher allocation of forage on livestock allotments would have a moderate positive impact on habitat and population quality. A slight improvement to the region's riparian - aquatic habitat condition and fisheries productive potential due to the large number of Bureau proactive measures or habitat protection and restoration. Bureau actions (habitat acquisition, protective management) would moderately offset the region wide trend toward sensitive species habitat loss or diminished quality. The most biologically diverse vegetation types would experience a slight to moderate improvement in condition and total plant biomass. The mature forest vegetation would be maintained at the current relative level of occurrence. Other plant communities would be maintained overall

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### Alternative 4

Regional consumptive uses of sage grouse areas would slightly degrade overall habitat quality and population condition despite some improvement to habitat and populations on Bureau land. Bureau actions would contribute to the loss of quail populations and habitat region wide. Despite some Bureau pro-active measures toward mule deer habitat improvement and acquisition, overall deer habitat and populations would be slightly to moderately degraded due to impacts occurring on other lands. Bureau actions would have a slight to moderate positive affect on tule elk habitat condition, however, the overall elk population would receive slight to moderate negative impacts due to actions on other lands. A moderate beneficial impact to prong-horn would result primarily through bureau acquisition of key habitats, water development and improved vegetation management. A slight improvement to the region's riparian-aquatic habitat condition and fisheries productive potential due to a large Bureau effort in habitat protection and restoration. Bureau actions (habitat acquisition, protective management) would generally balance or hold region wide affects to a slight negative impact on sensitive species habitats. Region wide, the most biologically diverse vegetation types would undergo a slight improvement in condition and available plant biomass, despite major Bureau proactive measures for these vegetation types. The mature forest vegetation type would be maintained at the current relative level of occurrence. The other plant communities (e.g. dune, sagebrush-bitterbrush) would be maintained in their present condition and areal extent, overall.

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**Table S-1. Cumulative Impact Summary (continued)**

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	Alternative 1	Alternative 2
Wildlife (cont.)	little or no change in condition or productivity (aspen, riparian, meadow) or undergo a slight to moderate decline in areal extent and site quality (old growth and mature forest). Overall, the other vegetation communities would be maintained.	to moderate decline in condition or productivity (aspen, riparian, meadow) or undergo a slight to moderate decline in areal extent and site quality (old growth and mature forest). Overall, the other vegetative communities (dune, bristlecone, Artr-Putr and pinyon-juniper) would experience very low percent loss of the area occupied.

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**Table S-2. Comparison of the Impacts of the Transmission Line Alternatives**

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	Pizona
Impacts On:	
Wild Horse Habitat	Although there would be some disturbance to wild horses during construction, impacts to the population would be insignificant.
Key Wildlife Habitats	5-10% of the deer and pronghorn fawning areas in the corridor would be lost.
Sensitive Plants	No measurable impacts to sensitive plants are anticipated.
Visual Resources	Visual quality objectives would be met from key viewpoints except for the Highway 6 crossing near Montgomery Pass.
Recreation	There would be significant negative impacts to the area's natural and undisturbed character and the associated experience of recreationists.



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### Alternative 3

### Alternative 4

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in their present condition, except for the sagebrush-bitterbrush type which would slightly decrease due to various developments.

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### Queen Valley

### Soldier Canyon

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There would be less impact to wild horses and their habitat than under the Pizona Corridor Alternative.

Impacts to deer winter range would degrade or eliminate habitat for 60-100 deer. Impacts to pronghorn would be much less than to deer (slight to no impact) because their use of the area is dispersed.

No measurable impacts to sensitive plants are anticipated.

A powerline corridor would seriously degrade the visual resource. VQO and VRM standards would not be met.

Impacts to semi-primitive or natural values would be minimal because these values have already been extensively disturbed by other developments.

There would no impacts to wild horses.

Disturbances of elk during powerline construction and maintenance and the loss of habitat in calving areas would measurably reduce elk populations. One bald eagle and one ferruginous hawk would be killed every 10 years from powerline strikes.

Some loss of sensitive plants is anticipated.

Visual impacts from key observation points would be minimal, except where the corridor crosses the Waucoba Road.

There will be significant negative impacts to the natural, undisturbed character of the area.

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**Table S-2. Comparison of the Impacts of the Transmission Line Alternatives (continued)**

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**Pizona**

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**Cultural Resources**

Some cultural resource properties would be disturbed, but impacts would be low if roadless construction is used. There would be no effects on traditional lifeways.

**Human Exposure to  
Electro-Magnetic Fields  
(EMF)**

Only a few people would have increased exposure to EMF. It is not known if this would constitute a health risk for these people.

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The east-west areas studied currently have no major transmission lines located within them. They are broad areas within which this study has evaluated the impacts of designating a transmission line corridor for future project proposals. They were identified as the Pizona, Queen Valley, and Soldier Canyon Alternative Areas.

The Pizona Alternative Area is located north of Benton and Queen Valley, and extends to the eastern boundary of the Inyo NF in the vicinity of Montgomery Pass, Nevada. It consists of a portion of the RMP's Benton Management Area and the Inyo NF's Pizona Management Area. Management direction of both agencies for this area is to protect/enhance its semi-primitive and dispersed recreation opportunities, and its key mule deer and wild horse habitat. Transmission line location through this alternative area would significantly impact its recreation resource values, and to a lesser degree, the area's wildlife and wild horse habitats.

The Queen Valley Alternative is adjacent to and immediately south of the Pizona Alternative Area. It extends from the existing north-south Oxbow transmission line near Old Benton to the eastern boundary of the Inyo National Forest, east of Mustang Mountain in Nevada. The area is bisected by U.S. Highway 6 and State Highway 120, major travel routes in the area. It includes a portion of the RMP's Benton Management Area, the extreme southern portion of the Forest Plan's Pizona Management Area, and the extreme northern portion of the Forest Plan's White Mountains Management Area. Its open spaces, low growing desert vegetation, and open valley-bottom topography offer little to no opportunity to locate/construct transmission lines through the area without significantly impacting natural and visual resource values.

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## Queen Valley

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Impacts to cultural resource properties would be similar to those described for the Pizona Corridor Alternative. There would be no effects on traditional lifeways.

There would be an insignificant increase in prolonged human exposure to EMF.

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## Soldier Canyon

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Impacts would be less than for the other two corridors because the density of sites is lower. There would be no effects on traditional lifeways.

There would be no significant human exposure to EMF.

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The Soldier Canyon Alternative Area extends from the Owens River and Tinemaha Reservoir area (east of Big Pine) to the eastern boundary of the Inyo National Forest overlooking Deep Springs Valley. The area includes a portion of the RMP's Owens Valley Management Area, the extreme southern part of the Forest Plan's White Mountains Management Area, and the extreme northern part of the Forest Plan's Inyo Mountains Management Area. It is bisected by the Waucoba Road, the only significant man-made disturbance in this area. The most notable impact of transmission lines in this area would be to its natural, relatively undisturbed character. There would be a minimal degree of negative impacts to visual resources, except in the vicinity of any crossing of the Waucoba Road.

The Soldier Canyon Alternative Area has been identified as the preferred alternative for designation as a transmission line planning corridor. An east-west corridor through this area will eliminate the need for 60 miles of new transmission lines in the Owens Valley (from Big Pine to the Pizona area) which would be necessary with the other two alternative areas. Impacts to visual resource values in this alternative area can be acceptably mitigated through specific tower and line sitings. This alternative will have no effect on wild horse habitats, and impacts to dispersed/semi-primitive recreation resource values will be significantly less than in the Pizona alternative area and visual impacts much less than in Queen Valley.



# Chapter 1

## Introduction



*Petroglyphs at Volcano Tableland.*





## Location and Overview of Bishop Resource Area

The Bishop Resource Area of the Bakersfield District is located in the eastern Sierra region of California in Mono and Inyo Counties. The area extends from the southern end of Owens Lake to Topaz Lake (Figure 1-1). The resource area contains approximately 750,000 acres of BLM land and about 9,000 acres of federal mineral estate under private land. The resource area office is also responsible for preparing and managing mineral leases on 2 million acres in the California portions of the Inyo and Toiyabe National Forests. Land management planning for these lands, however, is done by the respective forests. Approximately 524,000 acres of the Bishop Resource Area are in Mono County. The remaining 226,000 acres of BLM lands lie in Inyo County. The resource area shares boundaries with two National Forests and Los Angeles Department of Water and Power lands.

The resource area contains diverse and sensitive natural values that has generated strong public interest over the last several years. Historically mining has been important to the local economy. Livestock graze about 80% of the Resource Area. It is also an important recreation area, particularly for southern California residents. Bureau lands are foreground to the magnificent backdrop of the Sierra Nevada and the White Mountain range. Concern has been expressed about visual quality; the health of wildlife populations; the condition of streams and their associated fish populations; and riparian habitats. Sagebrush-bitterbrush, pinyon-juniper, scattered aspen groves, riparian areas and other habitats support significant numbers of sage grouse, mule deer, pronghorn, and many other species of wildlife.

## Purpose and Need for This Resource Management Plan

The draft plan provides BLM direction to manage its natural resources. The plan is based on resource management studies and the public's concerns. Existing land use plans (the Benton-Coleville Management Framework Plan, or MFP, and the amended Benton-Owens Valley MFP) have been updated and are portrayed as Alternative 1 in this document.

The Benton/Owens Valley MFP, approved in 1982, covers the southern portion of the Resource Area. The northern portion is covered by the Bodie/Coleville MFP, developed in 1983. Both plans with the exception of the grazing decisions, were not analyzed in an

Environmental Impact Statement (EIS). A Resource Management Plan (RMP) for the entire resource area is needed to address new issues, and to comply with the National Environmental Policy Act (NEPA) and current BLM Guidance.

The need for the new plan became evident during the MFP monitoring process. One issue was the proposal for an east-west transmission line corridor to bring additional electricity to the Los Angeles area. In addition, the Area Manager identified sixteen major proposals not in conformance with the MFPs; each case would have required an MFP amendment.

## Planning Process

Section 202 of the Federal Land Policy and Management Act of 1976 (FLPMA) requires the Bureau of Land Management to prepare, maintain, and use land use plans. In addition, the CEQ Regulations implementing the National Environmental Policy Act of 1969 (NEPA) list land use plans as generally being significant Federal actions requiring preparation of environmental impact statements [see 40 CFR 1508.18(b)(2)]. Thus, the Bureau's land use planning process follows procedures outlined in both 43 CFR 1600 and 40 CFR 1500.

After some internal planning and publication of a formal "Notice of Intent", the planning process consists of 7 steps from issue identification, through the development of alternative plans to the selection, approval, implementation, and monitoring of a Resource Management Plan. These steps can be summarized as follows:

1. Define goals.
2. Identify the issues and collect relevant data.
3. Evaluate the information and develop alternative plans to address significant conflicts and opportunities.
4. Make a decision.
5. Implement the decision.
6. Monitor the resources and track implementation of the plan.
7. Amend and/or revise the plan when necessary.

## LOCATION MAP

Bishop Resource Area

Bureau of Land Management



# BUREAU OF LAND MANAGEMENT BISHOP RESOURCE AREA

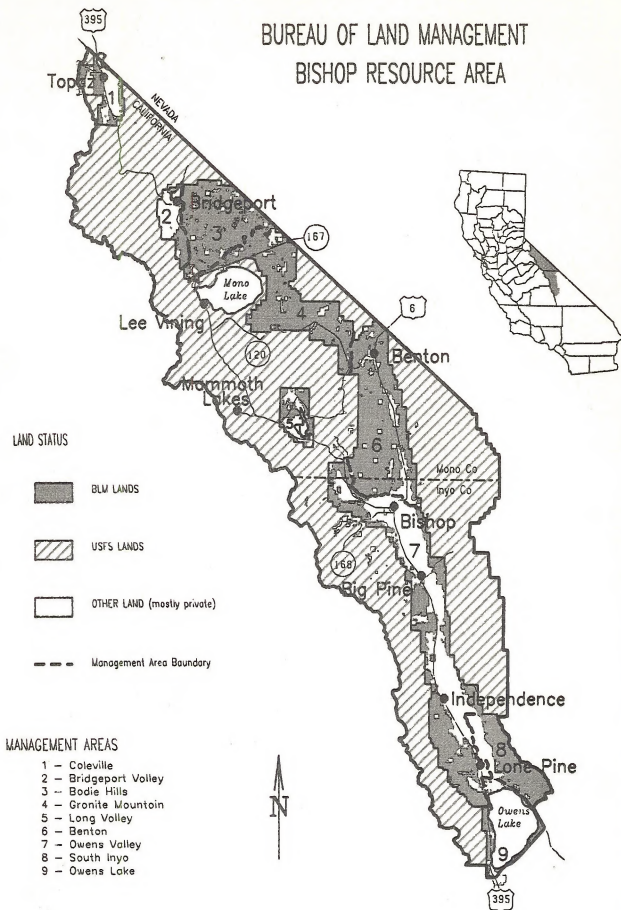


Figure 1-2

## Management Areas

The resource area has been divided into nine management areas (MAs) for analysis and alternative development. Three transmission line corridor study areas are analyzed separately. A management area is an area of similar demand, resource potential, problems, or management direction. The delineation of MAs allowed the team to focus on the specific resource values and management concerns of each area. It also helped to focus the planning effort on the issues germane to a particular area. Although most resources are represented in all management areas, some of the management areas have particularly high values of a certain type, such as mineral potential, wildlife values, recreation potential or use, livestock grazing use, or cultural resource values.

### Coleville

This area includes 21,560 acres of Bureau land in the northernmost portion of the resource area. Important resources include old growth timber in Slinkard Valley, important deer winter range in Slinkard and Antelope Valleys, and eleven perennial streams. Three of the streams provide recreational trout fishing while Mill Creek will provide habitat for Lahontan cutthroat trout. Part of the West Walker River has also been designated by California as a Wild and Scenic River.

### Bridgeport Valley

This area contains approximately 13,054 acres of Bureau land west of Bridgeport and north of Conway Summit. It has mineral, recreation and livestock use which sometimes conflict with scenic, wildlife and riparian values. There is some geothermal potential at the Travertine Hot Springs ACEC which has important cultural and recreation values, as well as importance to the local Indians.

### Bodie Hills

This area encompasses 121,150 acres of Bureau land east of Bridgeport. It has significant wildlife, livestock grazing and recreational uses and values. Mineral potential is high; and coordination with and protection of the adjacent Bodie State Historic Park is of national concern.

### Granite Mountain

This area contains 160,490 acres of Bureau land around the Mono Basin Scenic Area and in Adobe Valley. The area has important wildlife, wild horse, scenic and recreational values. There is little mineral

potential. There may be some geothermal potential, but this has not been fully explored.

### Long Valley

There are 18,213 acres of Bureau lands in this area around Crowley Lake which is mixed with LADWP lands and totally surrounded by the Inyo N.F. There are numerous geothermal springs and potential for geothermal development. The area has significant wildlife, riparian, and recreation values.

### Benton

This area from north of Benton to Bishop, and west to Round Valley contains 178,216 acres of Bureau land and is one of the most heavily utilized in the resource area. There are significant cultural resources, habitat for several important wildlife species, a major wetland/marsh in the Fish Slough ACEC, and several perennial streams as well as extensive mineral development, mineral material potential, and OHV use. There is also great concern about groundwater pumping issues and the potential affects upon the aquifer and vegetation.

### Owens Valley

This area consisting of 153,753 acres of Bureau land along both sides of the valley between Bishop and Lone Pine has several important springs and streams. There are several hydro-electric projects on Bureau lands and there is important habitat for tule elk and other wildlife species. There are several developed campgrounds, the scenic Alabama Hills, and areas of dispersed recreation use. There is also a demand for community expansion in an area land-locked by LADWP and federally owned lands.

### South Inyo

This area with 65,000 acres of Bureau land in the southern end of the Inyo Mountain Range. Approximately 27,000 acres are being recommended to Congress for wilderness designation. There is important wildlife habitat, including areas for potential reintroduction of Bighorn sheep. There are also some important cultural resources, and an area of Bristlecone pine.

### Owens Lake

This area contains only 15,786 acres of public land near Owens Lake. There are important tule elk calving grounds and habitat for several threatened, endangered, and candidate species in the springs and dunes around the lake. There are also important scenic qualities, cultural resources, geothermal potential, and concerns with dust on Owens Lake.



## Utility Corridor Study Areas

Corridor study areas include both Bureau and National Forest System lands in the vicinity of Montgomery Pass, Westgard Pass and along major existing transmission lines. Resources of concern in these areas include wild horses, mule deer, pronghorn sheep, threatened and endangered species, cultural resources, and visual resources.

## Major Issues Addressed in the Plan

The following are the key issues this plan addresses. They were developed in the early stages of the planning process based on public input, BLM expertise, and coordination with other federal, state, and local agencies. These issues can be tracked through the document, although in some chapters they are divided into subissues. For example, in Chapter 4 there is no heading for "Wildlife" but rather separate headings for sage grouse, mule deer, etc.

### Recreation

Recreation use is rapidly increasing in intensity and diversity throughout the resource area. The quality of recreation opportunities and scenic values is vital to the local economy. Land use plans must be sensitive to these issues to gain public support.

Recreation use is causing conflicts among different recreation activities as well as with other resources such as vegetation and wildlife. High use or potential high use recreation areas need attention.

Visual resources need to be enhanced and protected in certain areas. When visual restrictions affect development, the developer's costs increase.

### Wildlife

Public lands within the resource area provide habitat for a variety of wildlife species. Many of these species (for example, mule deer, sage grouse, and rainbow trout) are perceived as vital economic factors effecting tourism. Off-highway vehicle (OHV) use, minerals development, and rights-of-way development can damage wildlife habitat if not properly managed. In addition, livestock grazing and range improvements may impact wildlife habitat. The conditions of streams for fish and riparian habitats are also very important concerns in the resource area. Sound management of key habitat areas is critical to wildlife and there is public expectation that our wildlife management will be pro-

active-that it will include projects designed to enhance wildlife in response to the impacts of other projects.

Questions to be resolved include; 1) which areas should be managed with priority emphasis on wildlife habitat; 2) what should be the habitat goals for featured fish and wildlife species; and 3) what will be done to protect and enhance habitat of sensitive/protected animal and plant species?

### Minerals

Public demand is high for salable minerals (sand, gravel, building stone etc.) locatable minerals (gold, silver, platinum, etc.), and leasable minerals (geothermal). Under all alternatives, the resource area will continue to provide for exploration and development of these resources in most areas. Numerous conflicts with other surface resources, such as wildlife habitat and visual resources, arise from the intense nature of this land use. A decision needs to be made as to how these conflicts can be reduced including whether there are areas of high mineral production where future mineral development should be limited.

### Land Ownership and Authorizations

Within the resource area, there are demands for a variety of private projects and special uses on public land which frequently conflict with natural resources and other values. In Inyo and Mono Counties less than 15% of the land is held in private ownership.

Public land can be made available for private, local government, or nonprofit uses in a variety of ways: rights-of-way, special use leases and permits, sale or exchange, Recreation and Public Purpose leases or patents, and others. However, disposal of public land on most of the resource area is prohibited by "watershed withdrawals" that were enacted by Congress and the President in the 1930's, generally to protect the watershed for the City of Los Angeles and other cities and towns. One of the main issues is whether or not these watershed withdrawals are still necessary.

There is considerable demand from utility companies for additional transmission line routes to allow power to be brought to Southern California from Nevada via the Owens Valley rather than via Las Vegas. The two most likely entry points into the Owens Valley (the Montgomery Pass and Westgard Pass vicinities) and the specific designation of existing major powerlines as corridors are controversial because of potential visual and other environmental impacts.

Decisions also need to be made as to whether or not to allow hydroelectric power production on local streams and, if allowed, what standard stipulations and minimum by-pass flows will be required.

## Issues Considered but Dropped From Further Analysis

The following issues or concerns were identified in scoping but were not selected for detailed analysis in the draft RMP/EIS. The reasons for not analyzing these issues in depth are discussed below.

### Wilderness Recommendations

The development or reevaluation of wilderness area recommendations is not part of this planning effort. Recommendations for future wilderness management of this resource area were developed previously in the Benton-Owens Valley/Bodie-Coleville Final Wilderness EIS and the corresponding Wilderness Study Reports. These reports and recommendations are now being forwarded through administrative channels to be introduced for Congressional consideration. As reflected in these reports, a portion of the Southern Inyo Mountains Wilderness Study Area (CA-010-056) consisting of 27,420 acres will be recognized in this planning effort for management as a wilderness area. All other areas considered in the report will be recognized as being available for multiple use resource management, if and when Congress releases these areas from further wilderness consideration.

Wilderness Study Areas not part of these reports will be addressed in a separate review process outside this plan.

Any changes made by Congress in wilderness designations from those identified in the report may require an amendment to this RMP. In the meantime the Interim Management Policy for Wilderness Study Areas will be adhered to for these areas, and any RMP decisions not consistent with this policy will be put on hold.

### National Recreation Area Proposal

In the past, there has been some discussion of the concept of identifying a National Recreation Area (NRA) in the Eastern Sierra region. There is the possibility that some of the public lands in the Bishop Resource Area may eventually be considered for this designation.

At the present time, however, interest in an NRA is low. No proposals that identify concepts, parameters, or geography for a NRA have been seriously developed or agreed upon. If a serious proposal develops later, it will be considered through the plan amendment process if it includes aspects not consistent with the RMP.

### Livestock Grazing Decisions

The livestock grazing decisions made in the MFPs and the associated impact analysis in the Benton-Owens Valley and Bodie-Coleville grazing EISs (1981 and 1983) are incorporated in this RMP by reference. There are some decisions in the RMP regarding where grazing will take place. (Areas currently allocated but not grazed will be considered for unallocated status). However, the RMP does not address stocking levels, seasons of use, or other details of livestock management. These will be addressed, and necessary changes made after the RMP, using established procedures based on vegetation and stream condition monitoring. If the resource condition objectives established in the RMP are not being met, changes in livestock grazing practices will be made as necessary to achieve those objectives over a reasonable period of time.

### National Conservation Area Proposal

The National Conservation Area (NCA) designation is BLM's unique label for lands of outstanding character and national significance. No other Federal agency uses this designation. There are presently five NCAs in existence and several other areas are being considered for NCA status.

Each National Conservation Area requires its own legislation. There is no body of law defining the concept. All NCAs provide Congressional direction and support for multiple use management and conservation of BLM administered public land.

The National Conservation Area designation cannot be made through the Resource Management Plan - legislation proposing the designation would have to be introduced. A National Conservation Area designation for the Bishop Resource Area would depend upon public and Congressional support for the legislation.

### Levels of Decisions

There are two levels of decisions: Planning decisions and activity level decisions. The decisions made in the RMP are planning decisions. They will provide overall



guidance for resolving major resource use, allocation and protection issues. They will be implemented either directly or through site specific activity plans supported by an EA or EIS which will reference the RMP. The RMP not only allocates land use, the "where things are happening," it also provides the direction needed to manage the resources. It identifies levels and types of uses that may occur, conditions to be maintained, limitations on uses etc.

The RMP will:

1. Identify areas where habitat management plans need to be developed or where existing habitat management plans need revision.
2. Identify lands where changes should be made in existing withdrawals.
3. Identify specific lands for designation as utility corridors.
4. Establish formal OHV designations for all resource area lands.
5. Identify streams or other bodies of water eligible for study under Federal Wild and Scenic River legislation.
6. Identify desired plant communities for key vegetation types within the resource area.
7. Identify specific lands where future mineral development should be limited.
8. Identify which lands will be grazed by livestock and which will not.

Activity level decisions are more specific than planning decisions and usually involve the implementation or "how to" of broader planning decisions. For example, planning (RMP) decisions determine which areas will be ACECs and what their objectives will be while site specific (activity level) management plans will determine how those objectives are achieved.

## Planning Guidelines

The following assumptions, policies, and procedures give direction to this RMP. They are intended to focus analysis on the key issues, provide the framework for a comprehensive plan and to judge the overall desirability of the alternatives.

## Valid Existing Management

Decisions and recommendations made in the following documents are still valid and will not be reanalyzed. Existing analysis is incorporated by reference in this RMP/EIS.

1. *Benton-Owens Valley and Bodie-Coleville Grazing EISs*. The decisions that are carried forward are summarized in Appendix 5.
2. *Benton-Owens Valley/Bodie-Coleville Wilderness EIS*. This document covers 19 WSAs which includes 287,876 acres of Bureau land.
3. *California Vegetative Management EIS*. Any herbicide use will be consistent with procedures and limitations resulting from the California Vegetation Management FEIS and Record of Decision (November 1988). The herbicide treatment of 135 acres of grass referenced on p. A-6 of Appendix 2-1 is no longer an identified project.

## General Policy [References are to the Federal Land Policy and Management Act of 1976 (FLPMA)].

1. Management will be on the basis of multiple-use [Section 102(a)(7)].
2. Public lands to be disposed of are difficult and uneconomic to manage as part of the public lands and are not suitable for management by another Federal department or agency [Section 203(a)(1)].
3. Public lands are to be retained in Federal ownership unless disposal serves the national interest [Section 102(a)(1)].
4. Public lands will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use [Section 102(a)(8)].
5. Public lands will be managed in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public

lands including implementation of the Mining and Minerals Policy Act of 1970, as it pertains to the public lands [Section 102(a)(12)].

6. The Bureau will give priority to the designation and protection of Areas of Critical Environmental Concern [Section 202(c)(3)].
7. The Bureau will weigh long-term benefits to the public against short-term benefits [Section 202(c)(7)].
8. Management of public lands will consider:
  - a. Safety of the public and Bureau personnel with regard to road maintenance, illegal land uses, etc.
  - b. Relative cost-effectiveness of managing individual tracts.
  - c. Fiscal ability of the Bureau to effectively manage lands and interest (including easements) in the long term.
  - d. Alternative management schemes and creative partnerships with other agencies and organizations.
9. The BLM will not dispose of Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern, or other resources of high national interest to non-Federal agencies. Disposal of the habitat of endangered, threatened, or sensitive species to non-Federal agencies or nonprofit organizations (e.g., counties, State, The Nature Conservancy) may be considered only if the protection and conservation that would be afforded the habitat following transfer of title equals or exceeds the level afforded by Federal ownership. Such determination would be made by the State Director. Disposal of the habitat of officially listed endangered or threatened species would occur only after consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act of 1973, as amended.
10. BLM will continue to cooperate with California Department of Fish and Game with regard to Deer Herd Management Plans.
11. Site-specific inventories and analyses for threatened and endangered (T&E) species, historic and prehistoric cultural properties, and mineral values are required prior to disposal of public lands and interests.

12. BLM will comply with provisions of Section 106 of the Historic Preservation Act including consultation with the State Historic Preservation Officer and the National Advisory Council for actions which may impact significant cultural resources.
13. The Bureau will consult with local Indian communities to identify their concerns when projects might affect them. These concerns will be considered in the decision making process.
14. BLM will comply with the provisions of the Endangered Species Act of 1973 as amended including consultation with the U.S. Fish and Wildlife Service on projects that may or would affect threatened or endangered species.
15. BLM will secure any necessary permits and clearance from state and local agencies relative to air quality requirements.
16. BLM will participate in the state's comment process to provide input to proposed water uses which may affect the public lands.

## Area Manager's Guidelines

1. Although vegetation per se was not identified as an issue, vegetation will be a key element in the plan. The plan will identify the desired plant community (DPC) for key vegetation types. Management will be directed toward the achievement of DPCs which represent the plan's resolution of conflicting uses of the vegetation.
2. Vegetative goals for wildlife habitat, watershed protection and riparian conditions generally will be given strong consideration in relationship to livestock forage needs. Traditional or permittee-desired practices will be maintained, provided vegetative goals can be met.
3. Actions that will interfere significantly with efforts to maintain and/or enhance mule deer winter range throughout the area will generally not be allowed.
4. The Fish Slough ACEC Management Plan and the Tule Elk Habitat Management Plan will continue to direct management practices for these habitat areas, except that in the case of the tule elk plan, a reevaluation of the vehicle access management guidelines will be made per #12, below.
5. To the extent practical, riparian areas will be maintained, restored, or improved.

6. All existing and future powerlines must meet non-electrocution standards for raptors and provide raptor enhancement opportunities.
7. The Adobe Valley Pronghorn HMP will serve to direct management of currently occupied habitat.
8. Actions that will interfere significantly with efforts to maintain and/or enhance sage grouse habitat will generally not be allowed.
9. The Benton-Owens Valley MFP amendment (1989) for the public lands in the Mammoth-June Lakes Airport Land Use Plan area will remain as the land use guidance for this area.
10. The current goals and actions in the Fish Slough ACEC Management Plan and Designation, Petroglyph CRM Plan, and High Desert OHV Management Plan continue to direct management practices for recreation and cultural resources.
11. The Cooperative Management Agreement with Bodie State Park will remain in effect.
12. The RMP will determine which areas will be open to off-highway vehicle use and which areas will be designated for "limited" use only. The on-going High Desert OHV Study and joint USFS/BLM Interagency Study are addressing the specifics of which routes will be open and which will be closed in the "limited" areas.
13. Any decisions made in the RMP regarding geothermal or other mineral development will apply equally to land where the federal government owns both surface and mineral rights and land where the federal government owns only the mineral rights ("split estate"). However, it is recognized that BLM has no authority over the use of the surface by the surface owner. Any development would be in accordance with agreements willingly entered into by the surface owner.
14. In the case of "split estate" totally surrounded by private and/or Forest Service land (i.e., in the Town of Mammoth Lakes) any future leasing or development decision would defer to and be in accordance with applicable Forest Service, county and local planning.
15. The relicited lands of Owens Dry Lake will be considered to be owned and managed by the State of California for the purposes of this Resource Management Planning effort.
16. Mineral leasing decisions within the Inyo and Toiyabe National Forest boundaries are not being made in this plan. They will be in conformance with the respective forest plans.
17. Transfers of Bureau land to other agencies will be limited to small and isolated parcels.
18. Fire management plans and policies will place emphasis on fire prevention at the urban/wildland interface and suppression cost reduction.
19. Fuelwood harvesting prescriptions will be compatible to those on adjacent Forest Service lands.
20. Public lands not discussed in this document, but which are later identified because of survey error or through resurvey, will follow the resource condition objectives and land use allocations as specified for the management area.
21. The preferred method for accomplishing acquisitions and disposals is through exchange. In all cases a willing seller will be sought.
22. Actions violating VRM classes will not be allowed.

## Determinations That Will Not be Made in This Plan

Bureau planning guidance requires certain decisions to be made during the land use planning process unless they can be derived from other decisions, the resource is not present in the area or is of no interest, or if such a decision would be premature at this time. The following determinations meet one or more of these conditions and are, therefore, not addressed in this plan.

1. No separate wilderness decision will be made in this plan. Recommendations for future wilderness management were developed in the Benton-Owens Valley/Bodie-Coleville Final Wilderness EIS and the corresponding study reports.
2. No determinations will be made relative to coal, oil and gas, or non-energy leasable minerals due to low occurrences of these resources and lack of interest at this time.
3. Site specific actions related to soil and water objectives are not made in this plan. While RMP decisions may affect soil and water resources in general, more specific decisions and actions will be made at the activity plan level and Best Man-

agement Practices (BMPs) will be developed during activity plans or at the project level as necessary to address the site specific soil and water issues.

4. The Montgomery Pass Wild Horse Territory Coordinated Resource Management Plan (1988) established criteria for determining desired wild horse and burro populations levels, and the management actions that need to be taken with respect to wild horses and burros are future actions directed by the management plan. These determinations will not, therefore, be made through this RMP process.

## Relationship to Planning Efforts on Adjacent Jurisdictions

Considerable effort has been expended to assure this plan is consistent with existing and probable future plans of adjacent jurisdictions. Jurisdictions coordinated with include Inyo National Forest, Toiyabe National Forest, Inyo County, Mono County, the City of Los Angeles (Department of Water and Power), and three BLM resource areas: Ridgecrest (California), Tonopah (Nevada) and Walker (Nevada). Notice was given and comments were solicited from numerous others, including local Indian Tribal groups. Key coordination efforts include.

1. Doing the utility corridor portion of the RMP as a joint study with the Inyo National Forest. The Inyo is a cooperating agency for that portion of the RMP.
2. Clarifying existing planning corridors on the Toiyabe National Forest.
3. Assuring that logical extensions of the utility corridors analyzed in this study would in a timely manner be studied by adjacent BLM jurisdictions to avoid the establishment of deadend corridors. However, designation of an east-west utility corridor as a result of this study *does not* commit an adjoining jurisdiction to extend the designation across Federal lands in their area. The adjoining jurisdiction will make that decision based upon an environmental analysis made in response to a site specific project proposal, or a utility corridor study of their own.
4. Pre-DEIS public workshops to explain our draft preferred alternative and to receive comments. A mailing summarizing alternatives was sent out

before the workshops and most agencies and local officials were personally briefed on the alternatives.

## Programs/Processes of Particular Interest in This Planning Effort

### Computer Mapping

This is the first RMP in California fully supported by computer mapping techniques. All of the maps in this document, except those related to the utility corridor, have been produced using the Geographic Information System (GIS).

Manual mapping processes usually involve conversion of resource data from field mapping scales (1:62,500 or 1:24,000) to more generalized scales (1:100,000 or 1:126,720) for analysis of existing environment and resource conflicts. Often, the original field maps are lost or degenerate over time. The GIS system allows input from original mapping scales. Acreage and other statistical tables are generated from the map data. Output maps generated from the system can be produced at any scale, and retain the accuracy of the original maps. Furthermore, the data stored on computer disks and tapes will not degenerate with use, and will be accessible to all resource specialists.

Many GIS generated products have supported the RMP and its development. Statistical tables (area, length, frequency, etc.) were used to quantify existing resources and conflicts as well as eventual resource management decisions and allocations. Map graphics were often produced to depict the existing data, resource conflicts, and management decisions throughout the process, and greatly facilitated the production of maps for printing.

The benefits of using GIS will extend far beyond this RMP. A large variety of resource information is available to BLM specialists and the public at whatever map scale is needed. Environmental analyses for future BLM projects and public rights-of-way and other applications will be greatly facilitated. Some of the data, such as land ownership, highways, and lakes will remain valid for a long time. Other data such as sage grouse habitats and areas of high geothermal potential will need to be updated periodically, but updating will be easier than the initial massive input effort and the data will be much more accessible than with traditional methods.



Of the Federal, state, and local agencies with jurisdiction in the eastern Sierra, the Bishop Resource Area is the first to fully implement computer mapping. Virtually all the adjacent agencies have responded favorably to our efforts to coordinate our future mapping needs with them. The benefits of computer mapping will be greatly increased as we share data and equipment with adjacent jurisdictions

## Desired Plant Communities

Throughout the development of this RMP, an attempt has been made to avoid prohibiting specific actions, but rather to establish resource condition objectives. Once appropriate resource condition objectives are defined, activities and proposals on Bureau lands would be authorized as long as predicted impacts would allow accomplishment and/or maintenance of the objectives.

Desired plant communities (DPCs) have been defined for key vegetation types covering about 237,000 acres or some 30% of the Bureau land in the resource area. Appendix 1 includes the DPC definitions. The RMP alternatives specify the acreage of a given community that must meet DPC standards.

## Wild and Scenic Rivers

Section 5d of the Wild and Scenic Rivers Act of 1968 directs the Bureau to identify and evaluate all river segments on public land as potential additions to the National Wild and Scenic Rivers System. Any segments determined by BLM to be suitable would be recommended to the President and eventually to Congress for designation.

Although most people typically perceive a wild and scenic river as a large, bouldery cascading river, Congress provided a broader definition of the river types that should be considered for the national system. Section 16 of the Act defines the term river as "a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills and small lakes."

The Bishop Resource Area has evaluated all its river segments for potential addition to the national system. The evaluation is a three step process. Only the first two steps (eligibility determination and classification) have been completed. The final step, suitability determinations, will be completed two years after this RMP is approved. The evaluation process is outlined below:

1. Eligibility determination - In order to be eligible for inclusion, a river must be "free-flowing" and with its

adjacent land area, must possess one or more outstandingly remarkable values.

2. Classification - This step classifies the river based on river condition and adjacent lands as they exist at the time of the study. There are three classification categories - wild, scenic, or recreational. (Appendix 3 explains the classification criteria and shows how they affect river management in the Bishop Resource Area.)
3. Suitability determination - This final step provides the basis for the decision to recommend designation or nondesignation of an eligible river segment based on the resource attributes identified in the study. It is outside the scope of this Resource Management Plan. Until the suitability studies are complete, the Bureau will prescribe interim protective measures (subject to valid existing rights) to all eligible river segments. (See Appendix 3 for interim protective measures.)

Under all alternatives the following creeks are determined eligible for further study as potential additions to the Wild and Scenic River System. Potential classifications are also identified.

1. Virginia Creek - Recreational
2. Dog Creek - Recreational
3. Green Creek - Recreational
4. Rough Creek - Wild
5. Atastra Creek - Scenic/Recreational
6. Rock Creek - Recreational
7. Fish Slough - Recreational
8. Hot Creek - Recreational
9. Independence Creek - Recreational
10. George Creek - Recreational

Appendix 2 describes the eligibility determination process for all creeks in the Bishop Resource Area. Until such time as the above mentioned creeks are determined suitable by Congress or unsuitable by the Bureau, these creeks are protected under interim management. Valid Existing rights will not be restricted by the interim management guidelines.

## Scenic Byways

A 1986 study for the President's Commission on Americans' Outdoor found that 43% of American adults identified driving for pleasure as a favorite leisure pursuit. Next to walking, pleasure driving is America's most popular form of recreation. In 1988, the Bureau made a commitment to support a national effort to participate in the National Scenic Byways program.



Although the Bureau's primary focus is to emphasize use of primitive backcountry roads on public lands, it is additionally committed to designate major road systems that pass through scenic areas on public lands. The former road designations are referred to as backcountry byways; the latter as scenic byways.

Within the RMP, a number of scenic byways and a backcountry byway are proposed for designation. These byways highlight the area's special scenic and recreation values and further serve to increase public awareness of their lands and resources. They provide alternatives to congested highways and effectively disperse motorists to remote, lesser used routes.

Scenic and backcountry byways can be designated by the BLM State Director as part of the RMP approval process. In cases where the proposed byway crosses other agency lands, the Bureau would seek the other agency's cooperation to jointly designate the route. Procedures for signing, interpretation, brochures, and maps related to designated byways would be identified later.

The proposed scenic byways in the plan are primarily paved or all-weather maintained roads suitable for standard automobiles. These roads are usually winding and narrow which require slower than standard highway speeds. The proposed backcountry byway in the plan is not surfaced and usually requires 4-wheel drive vehicles or other specialized equipment such as dirt bikes or all-terrain vehicles to travel.

## Areas of Critical Environmental Concern

Area of Critical Environmental Concern (ACEC) designations highlight areas where special management attention is needed to protect and prevent irreparable damage to important historic, cultural, and scenic values; fish and wildlife resources or other natural systems and processes; or to protect people from natural hazards. ACEC designation demonstrates that an area contains significant values or resources and requires the development of special management direction to protect those values or resources. The Federal Land Policy and Management Act (FLPMA) of 1976 provides that designation of ACECs be given priority in the development of land use plans.

The Bishop Resource Management Plan considers ten areas that meet the criteria for potential ACECs. All of these potential ACECs are recommended for designation under the Natural Resource Enhancement Alternative. Under the Preferred Alternative seven ACECs are

recommended. Three potential ACECs that receive protection of their significant values or resources from standard management prescriptions are not recommended for designation. Two existing ACECs were validated and will continue to receive special management attention under all alternatives.

## Interagency Transmission Line Corridor Study

It has been recognized for several years that transmission line corridors through the Owens Valley may be needed to transmit energy from sources in Nevada, Utah, and elsewhere to the Los Angeles basin. On September 20, 1989, BLM and USFS met in the eastern Sierra to see if a regional study was practical. It was decided that the Inyo National Forest would participate as a cooperating agency (as per 40 CFR 1508.5) in the corridor portion of the Bishop RMP. Consequently, for the corridor study portion of this document, the RMP has been expanded to include USFS land within the Inyo National Forest.

The adjacent BLM jurisdictions (one in California and two in Nevada) decided not to participate directly in the study. However, they have completed brief studies of logical corridors extensions on their lands. This ensures the extensions are tentatively feasible and will be studied in each area's next planning cycle.

In addition to looking at potential east-west corridors into the Owens Valley near Montgomery Pass and Westgard Pass, the corridor study considers all existing major powerlines (115 kv and above) in the resource area for designation. The study identifies conditions of use such as corridor width, facility sharing, structure type, and method of installation.

Based upon this analysis, the Forest Service will issue a separate but consistent Record of Decision regarding transmission line corridor designations on USFS lands.

## Document Format

The general format of this document is similar to most major EISs. Background and introductory material are in Chapter 1. Alternative management scenarios including the preferred alternative are described in Chapter 2. Chapter 3 looks at the existing situation (affected environment) focusing on the key issues and the impact topics analyzed in Chapter 4. Chapter 5 briefly describes our public involvement process including Pre-DEIS public workshops. The document concludes with the usual List of Preparers, Glossary,

dices that provide details on such subjects as Desired Plant Community (DPC) definitions, and Wild and Scenic Rivers.

Several things are noteworthy about this document. Knowledge of them may facilitate its review:

1. There are two sets of alternatives: area-wide alternatives and alternatives for each of nine management areas. There are also three transmission line corridor alternative areas which jointly are treated as one additional management area.
2. The impact analysis is area wide, not management area specific, although it does focus on important site specific impacts in each management area as appropriate.
3. The impact analysis is by impact topic rather than by alternative. Thus, the impact on visual resources (for example) is analyzed under Alternatives 1, 2, 3, and 4 in sequence before moving on to the impact on recreation opportunities. In this format it is easy to understand the relative impact of the alternatives on a given topic. The alternatives themselves are then compared in tabular summaries.



## Chapter 2 Alternatives



*Movie Crew filming "Tremors" on Volcanic Tableland.*





## Introduction

Four land use management alternatives were developed for Bureau lands in the Bishop Resource Area, and are detailed in this chapter. These are: No Action/Continuation of Present Management; Custodial Management; Natural Resource Enhancement; and the Preferred Alternative. The first alternative represents a continuation of present levels of resource use and direction. The second and third alternatives provide a range of choices from favoring resource development or commodity production such as mining, livestock grazing, and motorized recreation with little BLM oversight to favoring protection or enhancement of environmental values such as wildlife habitat, watershed, and aesthetics. The proposed action alternative seeks to resolve issues in a balanced manner, providing for development of resources while protecting or enhancing environmental values. Table 2-1 presents a summary of the alternatives.

## Alternative Formulation

The alternatives were developed for each of nine management areas and area-wide by a core planning team, based on the issues and planning guidelines listed in Chapter 1. The team, guided by the alternative definitions (below), made full use of public consultation, coordination with other agencies, and evaluation by District and State Office specialists.

Alternatives are presented for each management area, and as area-wide alternatives. Transmission line corridor alternatives are presented as a separate management area. The Proposed Action alternatives from each management area and area-wide proposals constitute the Draft Resource Management Plan. The rationale for selecting a particular alternative is explained after all of the alternatives are presented. The rationales take into account the specific features of the management areas, the overall management of the resource area, and regional and statewide perspectives on BLM resources.

Alternatives for the designation of existing major transmission lines as corridors were formulated as described above and included in the area-wide alternatives. Alternative east-west corridors (where there currently are no transmission lines) were formulated by eliminating potential corridors into the resource area that are blocked by steep terrain or land allocations such as wilderness. Through this process three alternative corridors were identified as having no limiting factors that would necessarily prohibit transmission lines. These are: Pizona, Queen Valley, and Soldier Canyon.

## Alternative Definitions

Alternatives were developed for each management area and area-wide based on the resource values and issues. Alternatives were developed to provide management options which address the key issues plus a number of management concerns such as fire management and fuelwood harvesting.

The Proposed Action is the Bureau's "preferred alternative" and these terms are used interchangeably throughout this document.

### Alternative 1: No Action/Continuation of Present Management

This alternative is a continuation of the present situation, including current level, intensity, direction, or systems of resource use and protection. It is not a static condition or point in time, but allows for logical progression. Management direction is primarily from the Bodie-Coleville MFP and the Benton-Owens Valley MFP.

### Alternative 2: Custodial Management

This alternative would provide minimal management of BLM lands. Commodity production and intensive land uses would have few restrictions. Funding would be shifted toward administration of commodity production, and may be reduced from present levels. Proposed uses of Bureau land would be handled on a case by case basis. Emphasis would be changed from proactive management to reactive management.

### Alternative 3: Natural Resource Enhancement

This alternative would maintain or improve the condition of the natural environment. Commodity production and intensive land use would be more restricted and closely monitored. Wildlife habitat would be improved, scenic quality enhanced, and vegetation and other natural resources protected. Increased funding would be required.

### Alternative 4: Preferred Alternative

This alternative seeks to resolve issues in a balanced manner. It would provide for development of resources while protecting or enhancing environmental values. It consists of elements from the other alternatives and has been modified based on comments from the public, including comments received at public workshops throughout the resource area.

**Table 2-1. Area-Wide Summary of Decisions**

	Alternative 1 Present Management	Alternative 2 Custodial Management	Alternative 3 Natural Resource Enhancement	Alternative 4 Proposed Action
Wildlife	<p><u>Yearlong protection:</u> Some mule deer winter range; sage grouse leks, some plant communities.</p> <p><u>Seasonal protection:</u> Tule elk calving areas; sage grouse nesting areas (within 2 miles of leks).</p>		<p><u>Yearlong protection:</u> Some mule deer winter range and migration corridors; tule elk calving areas; sage grouse lek areas (within 1/3 mile of leks); several plant communities.</p> <p><u>Seasonal protection:</u> Other mule deer winter range; sage grouse nesting areas (within 2 miles of leks).</p> <p><u>DPC acres:</u> 114,101. Special protection for several endangered or sensitive species.</p>	<p><u>Yearlong protection:</u> Some mule deer winter range and migration corridors; tule elk calving areas; sage grouse lek areas (within 1/3 mile of leks); several plant communities.</p> <p><u>Seasonal protection:</u> Other mule deer winter range; sage grouse wintering areas; sage grouse nesting areas (within 2 miles of leks).</p> <p><u>DPC acres:</u> 104,620. Special protection for several endangered or sensitive species.</p>
Range	<p>Prohibit livestock grazing on one unused allotment.</p> <p>Open 4 allotments to grazing when certain conditions are met.</p> <p>Average 60% utilization, adjusted when conflicting with certain wildlife uses.</p>	<p>Open 4 allotments to grazing when certain conditions are met.</p> <p>Average 60% utilization, adjusted when conflicting with certain wildlife uses.</p>	<p>Prohibit livestock grazing on one unused allotment.</p> <p>Prohibit grazing on 3 allotments currently in use.</p> <p>Average 60% utilization, adjusted when conflicting with certain wildlife uses or DPC goals.</p>	<p>Prohibit livestock grazing on one unused allotment.</p> <p>Prohibit grazing on 3 allotments currently in use.</p> <p>Average 60% utilization, adjusted when conflicting with certain wildlife uses or DPC goals.</p>
Recreation	<p><u>Wild &amp; Scenic Rivers:</u> 10 creeks eligible for study.</p> <p><u>SRMAs:</u> Alabama Hills, Bodie Bowl.</p> <p><u>OHVs:</u> Limit to designated roads and trails. Open at Poleta Canyon.</p>	<p><u>Wild &amp; Scenic Rivers:</u> 10 creeks eligible for study.</p> <p><u>SRMAs:</u> Alabama Hills, Bodie Bowl.</p> <p><u>OHVs:</u> Limit to designated roads and trails. Open at Poleta Canyon.</p>	<p><u>Wild &amp; Scenic Rivers:</u> 10 creeks eligible for study.</p> <p><u>SRMAs:</u> Alabama Hills, Bodie Bowl.</p> <p><u>OHVs:</u> Limit to designated roads and trails. Open at Poleta Canyon. Snowmobile restrictions in sage grouse wintering areas.</p> <p><u>Trails:</u> Mountain bike, hiking, horseback riding trails.</p>	<p><u>Wild &amp; Scenic Rivers:</u> 10 creeks eligible for study.</p> <p><u>SRMAs:</u> Alabama Hills, Bodie Bowl.</p> <p><u>OHVs:</u> Limit to designated roads and trails. Open at Poleta Canyon. Snowmobile restrictions in sage grouse wintering areas.</p> <p><u>Trails:</u> Mountain bike, hiking, Horseback riding trails and 4-WD route connectors proposed.</p>

Table 2-1. Area-Wide Summary of Decisions (continued)

	Alternative 1 Present Management	Alternative 2 Custodial Management	Alternative 3 Natural Resource Enhancement	Alternative 4 Proposed Action
Recreation (Cont.)			<p><u>Scenic Byways:</u> 10 proposed.</p> <p><u>Environmental Education Center:</u> Proposed.</p>	<p><u>Scenic Byways:</u> 8 proposed.</p> <p><u>Environmental Education Center:</u> Proposed.</p>
	VRM I 4%, II 22%, III 69%, IV 5%	VRM I 4%, II 3%, III 72%, IV 21%	VRM I 6%, II 40%, III 52%, IV 2%	VRM I 6%, II 40%, III 52%, IV 2%
Minerals	<p><u>Salable:</u> May be restricted in yearlong and seasonal protection areas.</p> <p><u>Locatable:</u> All lands open for locatable mineral entry except Dogtown and Bishop Petroglyph Loop withdrawals (2,000 acres) 30,000 acres proposed for withdrawal.</p> <p><u>Geothermal:</u> May be restricted in yearlong and seasonal protection areas.</p>	<p><u>Locatable:</u> All lands open for locatable mineral entry except Dogtown and Bishop Petroglyph Loop withdrawals (2,000 acres).</p>	<p><u>Salable:</u> May be restricted in yearlong and seasonal protection areas. Coleville: consolidate to one pit. South Tableland: closed.</p> <p><u>Locatable:</u> 718,000 acres open. 2,000 acres withdrawn. 30,000 proposed for withdrawal.</p> <p><u>Geothermal:</u> May be restricted in yearlong and seasonal protection areas. No geothermal leasing within 1 miles of selected hot springs.</p>	<p><u>Salable:</u> May be restricted in yearlong and seasonal protection areas. Coleville: consolidate to one pit. South Tableland: closed.</p> <p><u>Locatable:</u> 746,100 acres open. 2,000 acres withdrawn. 1,900 proposed for withdrawal.</p> <p><u>Geothermal:</u> May be restricted in yearlong and seasonal protection areas. No geothermal leasing within 1 mile of selected hot springs.</p>
Lands	<p><u>Acquire:</u> 4,700 acres for wildlife habitat.</p> <p><u>Dispose of:</u> 23,100 acres for community expansion and services, agriculture.</p> <p>Retain all watershed withdrawals (600,000 acres).</p>	<p><u>Dispose of:</u> 24,200 acres for community expansion and services or agriculture, or that are difficult or uneconomical to manage.</p> <p>Propose all watershed withdrawals for revocation.</p>	<p><u>Acquire:</u> 41,700 acres to protect wildlife habitat, recreational, scenic, or cultural resources.</p> <p>Propose all watershed withdrawals for revocation.</p>	<p><u>Acquire:</u> 18,700 acres to protect wildlife habitat, recreational, scenic, or cultural resources.</p> <p><u>Dispose of:</u> 8,900 acres for community expansion and services, agriculture.</p> <p>Propose all watershed withdrawals for revocation.</p>
ACECs	Travertine, Fish Slough	Travertine, Fish Slough	Travertine, Fish Slough, Slinkard, Conway, Copper Mountain, Bodie Mtn. (including Bodie Bowl), Long Valley, Alabama Hills, Crater Mountain, Keynot Peak	Travertine, Fish Slough, Slinkard (reduced acreage), Conway, Bodie Bowl, Crater Mountain, Keynot Peak
Utility Corridor	Designate as corridors all lines 115 kv and above.	Designate as corridors all lines 115 kv and above.	None.	Designate as corridors the Interline; the 115 kv SCE line (from Bishop south); Soldier Canyon.

## Alternatives Eliminated From Detailed Study

Each of the alternatives describes a realistic and achievable mix of management actions and land use allocations. No extreme or unreasonable options were considered for any resources, and no proposals were made that could not be implemented, even though they may have been raised as issues at the outset of the planning process.

The alternative of no grazing was considered but dropped from further consideration because it was considered and discarded under the Benton-Owens Valley and Bodie-Coleville Grazing EISs.

Alternatives dealing with levels of use in certain grazing allotments were considered but eliminated from further study because current decisions from the Benton-Owens Valley and Bodie-Coleville Grazing EISs allow changes based upon monitoring of the resource.

During the alternative formulation process, five alternatives were actually developed — the four mentioned at the beginning of this chapter plus a Recreation Enhancement Alternative. The Recreation Enhancement Alternative was eliminated because the differences between it and the Natural Resource Enhancement Alternative were too small to merit further consideration.

An alternative transferring lands in the Long Valley Management Area to the Forest Service was considered, but eliminated from further study for the following reasons:

1. The resource values, and therefore the focus of BLM management and programs in the area, are different from that of adjacent Forest Service lands, and it was felt that BLM management of these programs should continue; and
2. BLM already carries much of the management responsibility for geothermal leasing on the Forest Service lands and if BLM transferred the area to the Forest Service, we would still be doing much of the management.

An alternative transferring lands in the Coleville Management Area to the Forest Service was considered, but eliminated from further study for the following reasons:

1. The BLM and Toiyabe N.F. have different policies and programs for old growth and key habitats (especially deer winter range) in this area. BLM

wished to continue its management focus in this area; and

2. Comments received from Forest Service officials indicate their interest in disposing of some of the area for private development. Public comment from local residents indicates a preference for retention in public ownership, with management for deer habitat, scenic values, and no development.

As mentioned in the section on Alternative Formulation, above, all potential east-west corridors other than the Pizona, Queen Valley, and Soldier Canyon alternatives were eliminated from detailed study. The reasons for eliminating these areas are as follows:

1. *North of the  $\pm 500$  kv DC Intertie Crossing of the State Line*

No east-west corridors were considered north of this point because there was no indication from utility companies or other potential applicants of any demand for access through this area. Also, the most logical route from potential energy sources in west-central Nevada to Southern California would follow the Intertie route. Sources further to the east (in Nevada) would be routed south of the Owens Valley, to minimize line distances.

2. *Between the Intertie crossing of the state line and the Pizona Corridor Alternative*

This area was not considered because it would be impractical to locate another corridor in such close proximity to the existing Oxbow line. Steep terrain also precludes a transmission line through this area.

3. *Between the Queen Valley Alternative and the Soldier Canyon Alternative*

Terrain considerations and land allocations in the White Mountains eliminate much of this area from potential corridor consideration. The Forest Plan has designated several prescriptions for management of Forest lands. These prescriptions preclude the consideration of utility corridors, and are incompatible with transmission line corridor uses. (A map showing these various management prescriptions is included on pages 208-209 of the Forest Plan.) Prescriptions which preclude transmission line corridor designations are: Proposed Wilderness, the Ancient Bristlecone Pine Forest, and two Research Natural Areas. The northern most portion of the White Mountain Range also includes the recently designated Boundary Peak Wilderness in Nevada (1989).



An alternative area near Westgard Pass could have been considered a transmission line corridor over the White Mountains through a canyon north of State Route 168, but the terrain is too steep and rugged for construction purposes. Also, this area is allocated to the semi-primitive recreation prescriptions. The management emphasis in this area is on recreational values; other resources activities and uses should not detract from them (Plan, p. 136). Transmission lines through these prescription areas, while not prohibited, are considered to be incompatible with the intent of the prescriptions.

Westgard Pass long Route 168 west from the community of Pig Pine, California, was evaluated from the ground and the air. Because of the steepness of the terrain and the narrowness of the canyon, it was determined to be infeasible from an engineering perspective. The route also would be highly visible from Grandview Campground, a popular recreation area, and the Forest Service road accessing the Ancient Bristlecone Pine Forest.

#### 4. *South of the Soldier Canyon Alternative*

Most of the area south of the Soldier Canyon Alternative is in the Forest Plan's Multiple Use Prescription which emphasizes balanced use and management of all resources. Powerline corridor designation would be compatible with this prescription (Plan, p. 149). However, there is no acceptable location in this area because of steep terrain and there are BLM Wilderness Study Areas (WSAs) on the east side of the Inyos. Further south, another area has been proposed for Wilderness designation in the Forest Plan. Also, the Bureau's recommended Wilderness Study Area and the Death Valley National Monument prohibit transmission line corridors.

## Organization of the Alternative Descriptions

The descriptions of the alternatives consists of three parts:

- Management Theme** • management of each area. They give overall direction to the decisions; they provide direction for addressing unforeseen proposals.
- Decisions** • The decisions specifically state the land use allocations and resource condition objectives.
- Support Needs** • These are the general follow-up actions necessary to implement the plan. The support needs will guide BLM budgeting and programming.

## Area-Wide Alternatives and Rationale for Preferred Alternative

### Alternative 1: No Action/Continuation of Present Management

#### *Management Theme*

- This alternative is a continuation of the present situation, including current level, intensity, direction, or systems of resource use and protection. It is not a static condition or point in time, but allows for logical progression. Management direction is primarily from the Bodie-Coleville and the Benton-Owens Valley MFPs.

#### *Decisions*

- Unless otherwise stated in the plan, all Bureau lands will be retained in public ownership. Lands identified for disposal are either difficult or uneconomic to manage, and would best serve the public interest in private ownership.
- Actions such as land use permits and leases, Recreation and Public Purpose leases, trespass resolution, and rights-of-way will be handled within the constraints of the plan.
- The Congressional and Executive Order watershed withdrawals will be retained, except for tracts identified for disposal. The withdrawals will be proposed for revocation only on a case-by-case basis to allow for disposal.
- Existing major utility lines (115 kv or greater) are designated as 1/2 mile wide utility corridors.
- Manage the resource area to provide a variety of desired recreation opportunities, with an emphasis on primitive, semi-primitive motorized, and semi-primitive nonmotorized experiences. The Bodie Bowl and the Alabama Hills are identified as Special Recreation Management Areas (SRMAs). The Bodie Bowl SRMA will be managed to preserve Bodie's historic integrity in coordination with Bodie State Historic Park. The Alabama Hills SRMA will be managed to protect the unique geologic features and scenery; camping in this SRMA is restricted to the Tuttle Creek Campground. Other campgrounds that will be maintained in the resource area include Goodale, Horton Creek (Owens Valley Management Area), and Crowley Lake (Long Valley Management Area).



- Vehicle use will be limited to designated roads and trails on 748,700 acres. Poleta Canyon will remain open to vehicle use (1,300 acres). Some seasonal closures will be designated in the resource area.
- See Figures 2-1 and 2-2 and Appendix 4 for VRM standards.
- Protect sage grouse habitat with the following measures:
  - Yearlong protection within a known strutting ground.
  - Seasonal protection within 1/8 mile of a known strutting ground during the months of March and April.
  - Seasonal protection within two miles of a known active strutting ground during the months of May and June.

- Improve and/or maintain all riparian vegetation zones in good to excellent ecological condition.
- All Bureau lands are open for locatable mineral entry (748,000 acres) except for existing mineral withdrawals at Dogtown and the Bishop Petroglyph Loop (2,000 acres).
- Provide salable minerals for community and private use, within the constraints of the plan.
- Provide for geothermal exploration and development within the constraints of the plan.
- Average allotment wide utilization will not exceed 60%. Utilization that exceeds this level for a 5-year period will require a use adjustment.
- Bitterbrush utilization by livestock and deer will not exceed 60%. Utilization that exceeds this level over a 5-year period will require a use adjustment.
- A 6-year decline in the forb component or loss of meadow to sagebrush encroachment within 2 miles of a sage grouse lek will require a use adjustment.
- If tule elk numbers decline to less than 440 due to competition with livestock, a livestock adjustment will be considered.
- Initial stocking rates are based on current livestock management practices and forage allocations (see Appendix 5).

- Prohibit livestock grazing on Bureau land outside of existing allotment boundaries. This includes areas designated as "unallotted."
- Only noncommercial harvesting of pinyon nuts will be allowed.

### ***Support Needs***

- Prepare an off-highway vehicle designation and implementation plan.
- Identify all salable minerals deposits. Develop a coordinated salable mineral program with appropriate agencies.
- Coordinate wildlife reintroductions with USF&WS, CDF&G, and other agencies or groups as appropriate.

## **Alternative 2: Custodial Management**

### ***Management Theme***

- This alternative will provide minimal management of Bureau lands. Commodity production and intensive land uses would have few restrictions. Funding would be shifted toward administration of commodity production, and may be reduced from present levels. Proposed uses of Bureau land would be handled on a case-by-case basis. Emphasis would shift from proactive to reactive management.

### ***Decisions***

- Unless otherwise stated in the plan, all Bureau lands will be retained in public ownership. Lands identified for disposal are either difficult or uneconomic to manage, and would best serve the public interest in private ownership.
- Actions such as land use permits and leases, Recreation and Public Purpose leases, trespass resolution, and rights-of-way will be handled within the constraints of the plan.
- The Congressional and Executive Order watershed withdrawals will be revoked or proposed for revocation.
- Existing major utility lines (115 kv or greater) are designated as 1/2 mile wide utility corridors.
- Manage the resource area to allow for a variety of dispersed recreation opportunities. Emphasize primitive, semi-primitive motorized, and semi-primitive nonmotorized experiences. The Bodie

# ALTERNATIVE 1 VISUAL RESOURCE MANAGEMENT

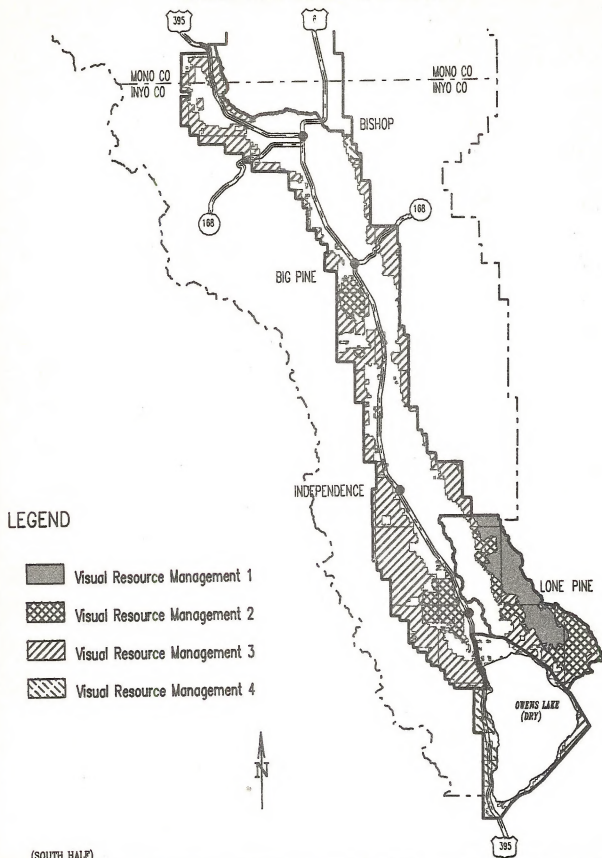
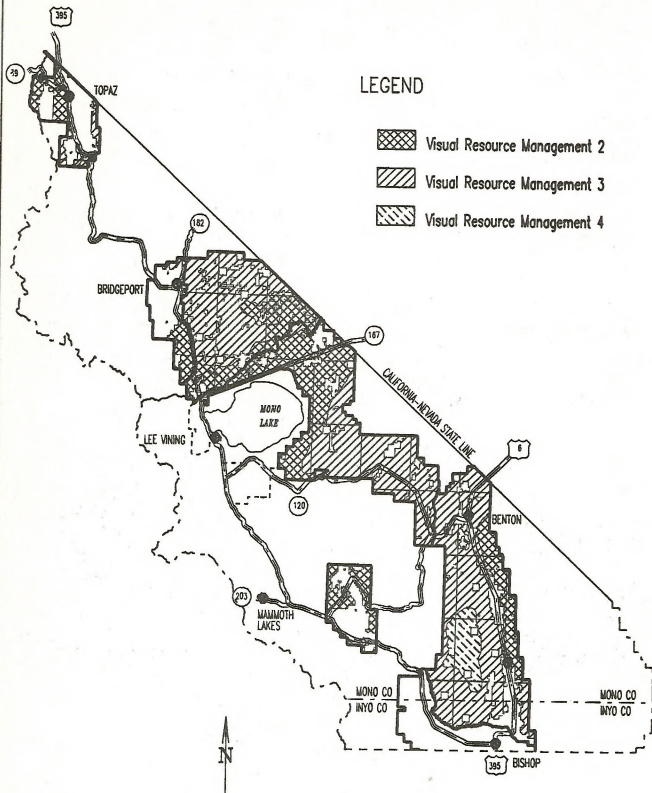


Figure 2-1

# ALTERNATIVE 1 VISUAL RESOURCE MANAGEMENT



(NORTH HALF)

Bowl and the Alabama Hills are identified as Special Recreation Management Areas (SRMAs). The Bodie Bowl SRMA will be managed to preserve Bodie's historic integrity in coordination with Bodie State Historic Park. Manage Alabama Hills SRMA to protect the unique geologic features and scenery; camping in this SRMA is restricted to the Tuttle Creek Campground. Recreation management will be minimal, with developed facilities maintained only at the Tuttle Creek, Goodale, and Horton Creek campgrounds (Owens Valley Management Area). The Crowley Lake Campground will be closed (Long Valley Management Area).

- Vehicle use will be limited to designated roads and trails on 748,700 acres. Poleta Canyon will remain open to vehicle use (1,300 acres). Some seasonal closures will be designated in the resource area.
- See Figures 2-3 and 2-4 and Appendix 4 for VRM standards.
- Improve and/or maintain all riparian vegetation zones in good to excellent ecological condition.
- All Bureau lands are open for locatable mineral entry (748,000 acres) except for existing mineral withdrawals at Dogtown and the Bishop Petroglyph Loop (2,000 acres).
- Provide salable minerals for community and private use within the constraints of the plan.
- Provide for geothermal exploration and development within the constraints of the plan.
- Average allotment-wide utilization will not exceed 60%. Utilization that exceeds this level for a 5-year period will require a use adjustment.
- Bitterbrush utilization by livestock and deer will not exceed 60%. Utilization that exceeds this level over a 5-year period will require a use adjustment.
- A 6-year decline in the forb component or loss of meadow to sagebrush encroachment within 2 miles of a sage grouse lek will require a use adjustment.
- If tule elk numbers decline to less than 440 due to competition with livestock, a livestock adjustment will be considered.
- Initial stocking rates are based on current livestock management practices and forage allocations (see Appendix 5).

- Prohibit livestock grazing on Bureau land outside of existing allotment boundaries. This includes areas designated as "unallotted."
- Only noncommercial harvesting of pinyon nuts will be allowed.

### **Support Needs**

- Prepare an off-highway vehicle designation and implementation plan.
- Identify all salable mineral deposits. Develop a coordinated salable mineral program with other appropriate agencies.

## **Alternative 3: Natural Resource Enhancement**

### **Management Theme**

- This alternative will maintain or improve the condition of the natural environment. Commodity production and intensive land uses will be more restricted and closely monitored. Wildlife habitat would be improved, scenic quality enhanced, and vegetation and other natural resources protected. Increased funding would be required.

### **Decisions**

- All Bureau lands will be retained in public ownership. However, lands could be disposed of to resolve inadvertent occupancy trespass (e.g. where survey error has resulted in home construction on Bureau land). Such disposals will be limited to the smallest legal subdivision which includes the private development.
- Actions such as land use permits and leases, Recreation and Public Purpose leases, trespass resolution, and rights-of-way will be handled within the constraints of the plan.
- Prohibit groundwater pumping where it would interfere with DPC goals or valid existing water uses.
- The Congressional and Executive Order watershed withdrawals will be revoked or proposed for revocation.
- Manage the resource area to provide a variety of dispersed recreation opportunities. Emphasize primitive, semi-primitive motorized, and semi-primitive nonmotorized experiences. The Bodie Bowl and the Alabama Hills are identified as

## ALTERNATIVE 2 VISUAL RESOURCE MANAGEMENT

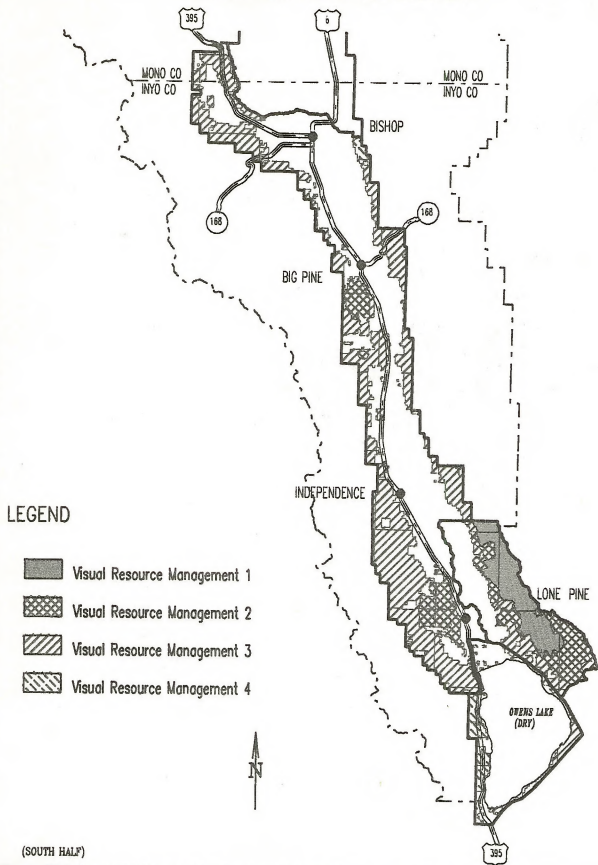
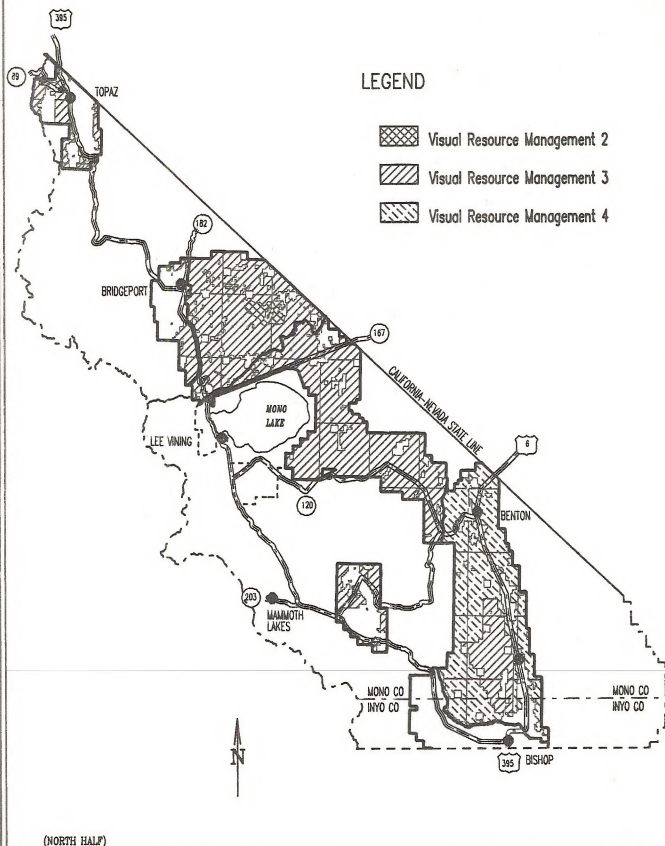


Figure 2-3



# ALTERNATIVE 2 VISUAL RESOURCE MANAGEMENT



SRMAs. The Bodie Bowl SRMA will be managed to preserve Bodie's historic integrity in coordination with Bodie State Historic Park. Manage the Alabama Hills SRMA to provide a variety of recreation, and to protect the unique geologic features and scenic values; camping will be allowed only in designated areas. Campgrounds will be maintained in the resource area at Tuttle Creek, Goodale, Horton Creek (Owens Valley Management Area), and Crowley Lake (Long Valley Management Area). Recreation management will include: developing trails for hiking, mountain biking and horseback riding; off-highway vehicle use; designating scenic byways; interpreting natural and cultural resources; and restricting recreation uses where there is a conflict with wildlife or other natural resources.

- Vehicle use will be limited to designated roads and trails on 748,700 acres. Poleta Canyon will remain open to vehicle use (1,300 acres). Some seasonal closures will be designated in the resource area.
- See Figures 2-5 and 2-6 and Appendix 4 for VRM standards.
- Protect and enhance unique or important vegetation communities and wildlife habitats.

—Yearlong protection of sensitive plant habitats.

—Yearlong protection of candidate and listed species habitats.

—Yearlong protection of aspen groves, meadows, and riparian areas, including a 150 ft buffer around these areas.

—Yearlong protection within 1/3 mile of sage grouse leks.

—Seasonal protection within 2 miles of sage grouse leks from 5/1 to 6/30.

—No vehicular access or camping within 1/3 mile of sage grouse leks from 3/1-6/30.

—Increase the amount of sagebrush habitat that has optimum characteristics for sage grouse to 60%. (Presently only 30% of sagebrush habitat has optimum characteristics for sage grouse.)

- Manage discretionary actions to conform with Desired Plant Community (DPC) goals. (See Appendix 1 for DPC descriptions).
- On sensitive stream reaches (those with bank protection rating of <3) do not allow the artificial soils alteration rating to exceed 20%.

- Prohibit water diversions subject to valid existing rights.
- 748,000 acres are open to locatable mineral entry. Maintain Dogtown and Bishop Petroglyph Loop mineral withdrawals (2,000 acres). Propose an additional 30,000 acres for withdrawal to protect wildlife, recreation, and historic values.
- Provide salable minerals for community and private use within the constraints of the plan.
- Provide for geothermal exploration and development within the constraints of the plan.
- Average allotment wide utilization will not exceed 60%. Utilization that exceeds this level for a 5-year period will require a use adjustment.
- Bitterbrush utilization by livestock will not exceed 30% of annual growth. Utilization that exceeds this level over a 5-year period will require a use adjustment.
- Manage sagebrush-bitterbrush vegetation within 2 miles of sage grouse leks to meet DPC goals. Livestock use will not exceed 40% on key grass species and 30% on bitterbrush.
- If tule elk numbers decline to less than 440 due to competition with livestock, a livestock adjustment will be considered.
- Initial stocking rates are based on current livestock management practices and forage allocations (see Appendix 5).
- Prohibit livestock grazing on Bureau land outside of existing allotment boundaries. This includes areas designated as "unallotted."
- Manage cultural resources for information potential by initiating data recovery projects at threatened sites.
- Only noncommercial harvesting of pinyon nuts will be allowed.

#### **Support Needs**

- Prepare an off-highway vehicle designation and implementation plan.
- Identify all salable mineral deposits. Develop a coordinated salable mineral program with other appropriate agencies in the area.

# ALTERNATIVE 3 VISUAL RESOURCE MANAGEMENT

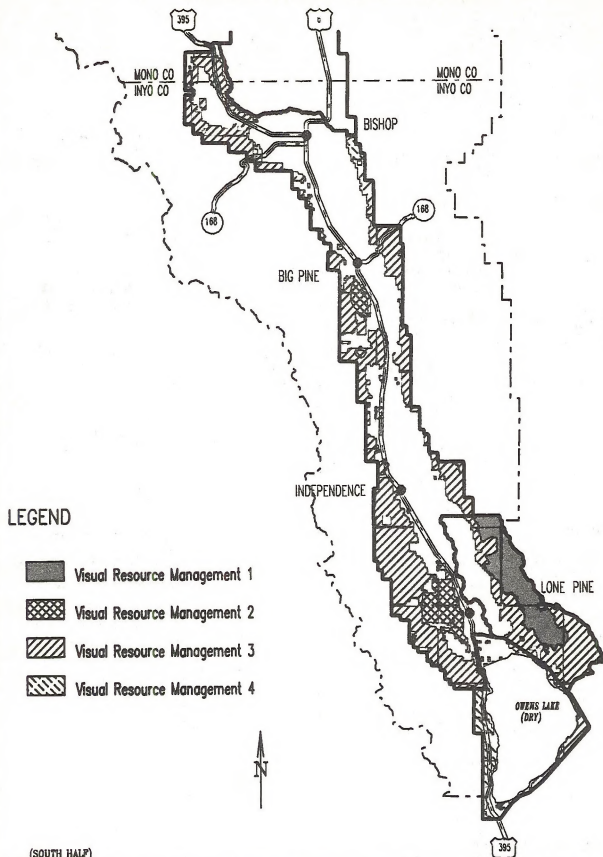
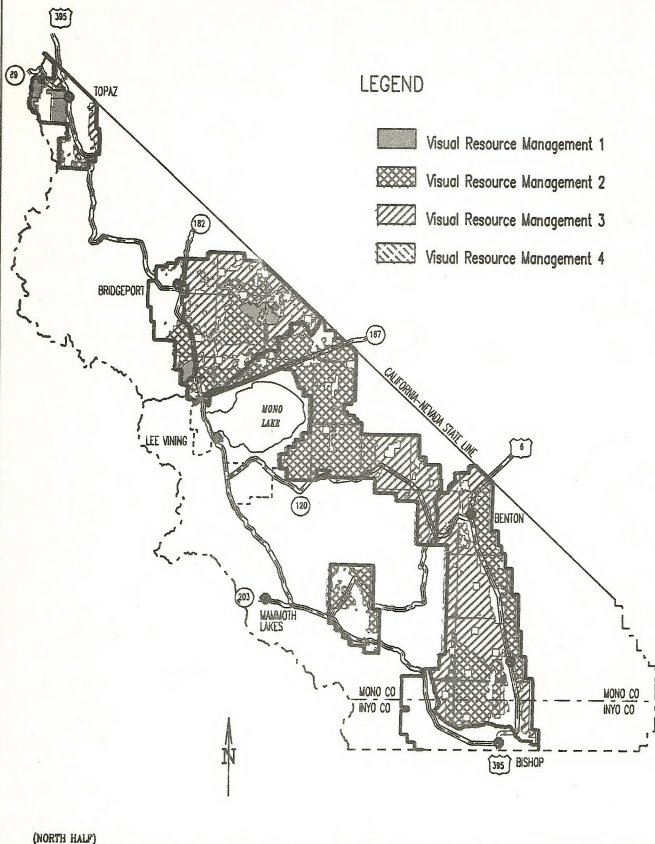


Figure 2-5

### ALTERNATIVE 3 VISUAL RESOURCE MANAGEMENT



- Coordinate wildlife reintroductions with USF&WS, CDF&G, and other agencies or groups as appropriate.

## Alternative 4: Preferred Alternative

### Management Theme

- This alternative seeks to resolve issues in a balanced manner. It will provide for development of resources while protecting or enhancing environmental values. It consists of elements from the other alternatives and has been modified based on comments from the public. Increased funding will be required.

### Decisions

- Unless otherwise stated in the plan, all Bureau lands will be retained in public ownership. Lands identified for disposal are either difficult or uneconomic to manage, and would best serve the public interest in private ownership. Land may also be disposed of to resolve inadvertent occupancy trespass (e.g. where survey error has resulted in home construction on Bureau land). Such disposals will be limited to the smallest legal subdivision which includes the private development.
- Land exchange is the preferred method of disposal. Recreation and Public Purpose patents could also be issued on lands identified for disposal. Bureau lands will not be available for disposal under the agricultural land laws.
- Actions such as land use permits and leases, Recreation and Public Purpose leases, trespass resolution, and rights-of-way will be handled within the constraints of the plan.
- Prohibit groundwater pumping where it would interfere with DPC goals or valid existing water uses.
- The Congressional and Executive Order watershed withdrawals will be revoked or proposed for revocation.
- Utility corridors are designated along the following existing major transmission lines:

— The  $\pm$  500 kc DC Intertie from where it enters California near State Highway 167 to where it exits the resource area near Olancha.

— The 11 kv SCE Double Circuit line from the Bishop substation to where it exits the resource area near Olancha.

- The following conditions and mitigation measures apply to these corridors:

1) Corridors extend 1/4 either side of the specified lines with the following exceptions:

- a) In the vicinity of Benton Hot Springs the corridor is limited to 1/4 mile west of the Intertie.
- b) Between and along WSAs on the Volcanic Tableland future lines will have to share existing facilities unless one or all of the WSAs are released to multiple use by Congress.

2) Future facilities in these corridors will be allowed to exceed VRM and yearlong protection standards. Extensive mitigation will be required. Mitigation may include but is not limited to:

- a) Painting and non-specular steel techniques to reduce the visibility of facilities.
- b) Requiring the use of shared facilities.

3) The first applicant for a ROW in either of these corridors will have to conduct a study to determine how many additional transmission lines can be located within the corridor.

- Manage the resource area to provide a variety of dispersed recreation opportunities. Emphasize primitive, semi-primitive motorized, semi-primitive nonmotorized, and roaded natural experiences. The Bodie Bowl and the Alabama Hills are identified as SRMAs. The Bodie Bowl SRMA will be managed to preserve Bodie's historic integrity in coordination with Bodie State Historic Park. Manage the Alabama Hills SRMA to provide a variety of recreation and to protect the unique geologic features and scenic values; camping will be allowed only in designated areas. Campgrounds will be maintained in the resource area at Tuttle Creek, Goodale, Horton Creek (Owens Valley Management Area), and Crowley Lake (Long Valley Management Area). Recreation management will include: developing trails for hiking, mountain biking and horseback riding; off-highway vehicle use; designating scenic byways; and interpreting natural and cultural resources.
- Vehicle use will be limited to designated roads and trails on 748,700 acres. Poleta Canyon will remain



open to vehicle use on 1,300 acres. Some seasonal closures will be designated in the resource area. Snowmobile use is limited to designated areas and routes.

- See Figures 2-7 and 2-8 and Appendix 4 for VRM standards.
- Protect and enhance unique or important vegetation communities and wildlife habitats.
  - Yearlong protection of sensitive plant habitats.
  - Yearlong protection of candidate and listed species habitats.
  - Yearlong protection of aspen groves, meadows, and riparian areas.
  - Yearlong protection within 1/3 mile of sage grouse leks.
  - Seasonal protection within 2 miles of sage grouse leks from 5/1 - 6/30.
  - No vehicular access or camping within 1/3 mile of sage grouse leks from 3/1 - 6/30.
  - Increase the amount of sagebrush habitat that has optimum characteristics for sage grouse to 60%. (Presently only 30% of sagebrush habitat has optimum characteristics for sage grouse.)
- Manage discretionary actions to conform with DPC goals.
- On sensitive stream reaches (those with bank protection ratings of <3) do not allow the artificial soil alteration rating to exceed 20%.
- Maintain 95% of 10 year mean monthly stream flow subject to valid existing rights.
- 748,000 acres are open to locatable mineral entry. Maintain Dogtown and Bishop Petroglyph Loop mineral withdrawals (2,000 acres). Propose an additional 1,900 acres for withdrawal to protect wildlife, recreation, and historic values.
- Provide salable minerals for community and private use within the constraints of the plan.
- Provide for geothermal exploration and development within the constraints of the plan.

- Average allotment wide utilization will not exceed 60%. Utilization that exceeds this level for a 5-year period will require a use adjustment.
- Bitterbrush utilization by livestock will not exceed 30% of annual growth. Utilization that exceeds this level over a 5-year period will require a use adjustment.
- Manage sagebrush-bitterbrush vegetation within 2 miles of sage grouse leks to meet DPC goals. Livestock use will not exceed 40% on key grass species and 30% on bitterbrush.
- If tule elk numbers decline to less than 440 due to competition with livestock, a livestock adjustment will be considered.
- Initial stocking rates are based on current livestock management practices and forage allocations (see Appendix 5).
- Prohibit livestock grazing on Bureau land outside of existing allotment boundaries. This includes areas designated as "unallotted."
- Manage cultural resources for information potential by initiating data recovery projects at threatened sites.
- Only noncommercial harvesting of piñon nuts will be allowed.

#### **Support Needs**

- Prepare an off-highway vehicle designation and implementation plan.
- Identify all salable mineral deposits. Develop a coordinated material sales program with other appropriate agencies in the area.
- Coordinate wildlife reintroductions with USF&WS, CDF&G, and other agencies or groups as appropriate.
- Develop interpretive signing at selected cultural sites.
- Efforts will be undertaken to educate the public on the values of preserving their historic and prehistoric heritage. BLM will work with public schools to enhance their curriculum, and provide training to teachers and students.

## **Rationale**

Over 8,000 acres of Bureau land are identified for disposal, and over 18,000 acres of private land are identified for acquisition. It is doubtful that all these disposals and acquisitions will be completed within the life of the plan. The large amounts of land in each category are intended to provide flexibility for land exchanges, and to assist in assigning priorities for acquisitions.

Groundwater pumping and water export has been a central issue in the eastern Sierra for several decades. BLM's position is clarified with the decision prohibiting groundwater pumping on Bureau land where it would interfere with DPC goals or valid existing water uses.

The "limited" off-highway vehicle designation which covers most of the resource area is necessary to prevent adverse impacts that would result from unrestricted use. Detailed plans will identify vehicle use opportunities and restrictions.

The existing mineral withdrawals on the Bishop Petroglyph Loop on the Volcanic Tableland and at the Dogtown historic site are necessary to protect cultural resources.

Livestock grazing decisions are similar under the alternatives because the decisions were based on the range EISs prepared in the early 1980's. The DPC goals will alter livestock grazing in some areas and improve management of important vegetation types.

The  $\pm$  500 kv DC Intertie and the 115 kv Southern California Edison double circuit line were administratively designated transmission line corridors because analysis showed that the impact of additional lines in these areas would be acceptable. The 115 kv lines to Mammoth and around Long Valley were not designated because the existing lines have sufficient capacity to handle anticipated population growth and geothermal development during the next 15 years. There are also visual and land stability concerns where these lines follow U.S. Highway 395.

# **Alternatives for Individual Management Areas and Rationales for Preferred Alternative**

## **Coleville Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### **Management Theme**

- Provide land for expanding communities while emphasizing wildlife habitat protection in areas not affected by community expansion.

#### **Decisions**

- Dispose of the following: 40 acre tract in Little Antelope Valley to CDF&G or for other public purposes; 366 acres in east Antelope Valley for community expansion.
- Acquire 945 acres of private land west of U. S. Highway 395 in Walker/Coleville area to protect mule deer winter range.
- Manage for dispersed recreation use and interpretation of natural and cultural values.
- Manage the area to conform to the following VRM standards:
  - VRM II: Slinkard Valley, West Antelope Valley south of State Highway 89.
  - VRM III: West Antelope Valley north of State Highway 89, East Antelope Valley.
  - VRM IV: Remainder of the area.
- Maintain and improve winter range for the West Walker deer herd in Slinkard Valley and Little Antelope Valley to meet CDF&G deer population goals (8,500 deer).
- Manage Mill Creek, Slinkard Creek, Slinkard Creek Tributary #1, Slinkard West Side drainage #2, and unnamed creek along Golden Gate Road so that they remain suitable for Lahontan cutthroat trout reintroduction.
- Prohibit construction of stream diversions on Bureau lands which would impact natural resources.

# ALTERNATIVE 4 VISUAL RESOURCE MANAGEMENT

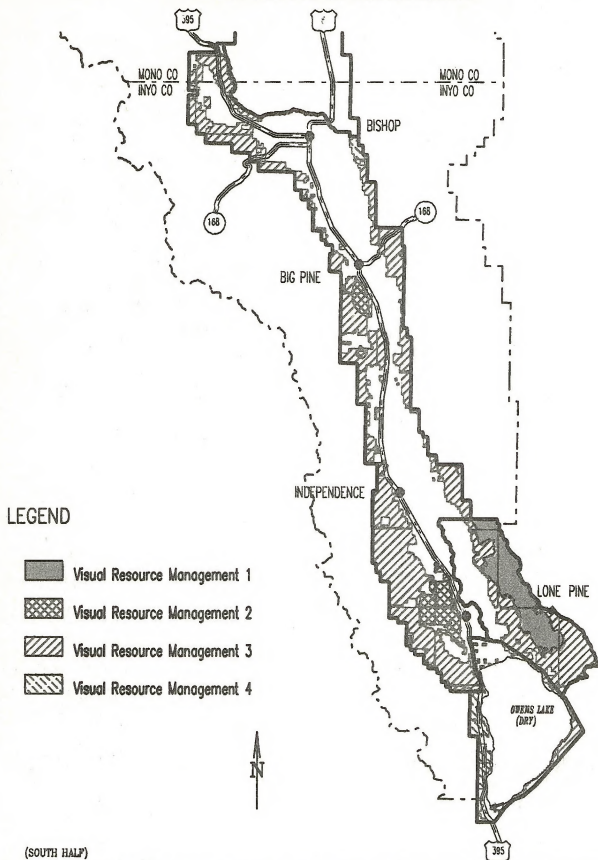

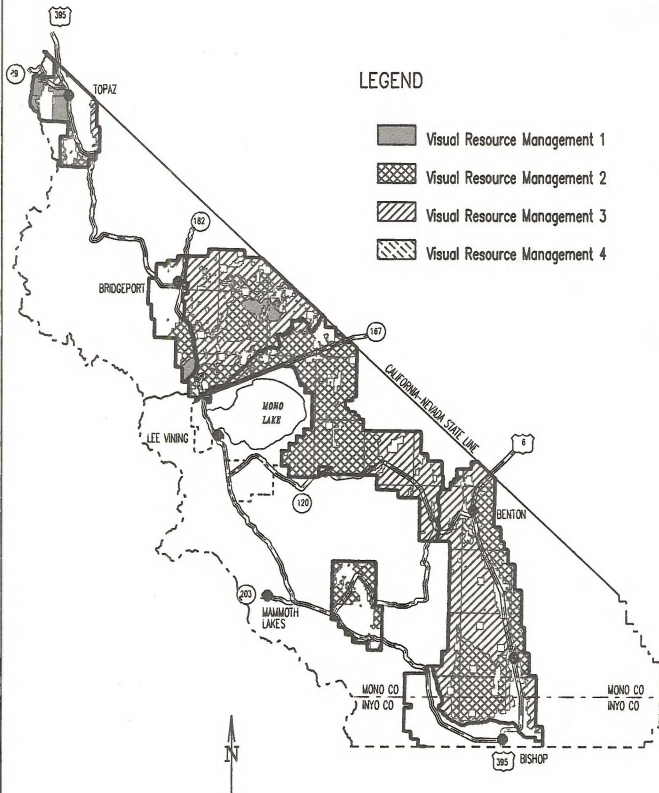


Figure 2-7

# ALTERNATIVE 4 VISUAL RESOURCE MANAGEMENT

## LEGEND

-  Visual Resource Management 1
-  Visual Resource Management 2
-  Visual Resource Management 3
-  Visual Resource Management 4



(NORTH HALF)

- Improve habitat diversity for wildlife in pinyon-juniper stands by opening canopy.
- Increase chukar and quail populations in the Walker burn area by improving habitat.
- Manage the old growth forest west of Slinkard and Little Antelope Valleys for retention of the unique assemblage of plant and animal species.
- Yearlong protection of mule deer winter range east of Eastside Lane.
- To enhance wildlife habitat remove livestock grazing from the Dry Canyon and Slinkard Valley allotments when alternative grazing areas are found.
- Management will be consistent with the State-designated Wild and Scenic Walker River. No actions that conflict with these goals will be authorized within the designated river corridor.
- Control erosion and restore meadows to good/excellent ecological condition to improve habitat in Slinkard and Little Antelope Valleys for trout and other riparian dependent species.
- Allow non-commercial fuelwood harvesting of dead (down or standing) pinyon and juniper.
- Employ full suppression techniques against all wildfires, but minimize surface disturbing activities such as blading by bulldozers and other heavy equipment.

#### ***Support Needs***

- Develop protective and interpretive measures for Golden Gate Mine.
- Install migratory waterfowl interpretive sign at southwest end of Topaz Lake.
- Develop an HMP for the West Walker deer herd.
- Develop mule deer water sources east of Eastside Lane.
- Develop water sources for chukar and quail in the Walker burn area.
- Establish agreements with CDF&G allowing livestock operators with grazing privileges in Dry Canyon and Slinkard Valley allotments to graze CDF&G land in Slinkard Valley.
- Develop measures to control erosion and restore

meadows to good/excellent ecological condition in Slinkard and Little Antelope Valley for trout and other riparian dependent species.

### **Coleville MA - Alternative 2: Custodial Management**

#### ***Management Theme***

- Provide land for expanding communities while emphasizing wildlife habitat protection in areas not affected by community expansion.

#### ***Decisions***

- Dispose of 406 acres in Little Antelope and East Antelope Valleys to provide for community expansion.

- Manage the area to conform to the following VRM standards:

— VRM III: Antelope Valley, West Antelope Valley, East Antelope Valley.

— VRM IV: Remainder of the area.

- Management will be consistent with the State-designated Wild and Scenic Walker River. No actions that conflict with these goals will be authorized within the designated river corridor.
- Allow commercial timber harvesting in old growth areas. Allow commercial and non-commercial fuelwood harvesting of all species except aspen.
- Employ full suppression techniques against all wildfires. The goal is to keep 90 percent of the fires under 10 acres.

### **Coleville MA - Alternative 3: Natural Resource Enhancement**

#### ***Management Theme***

- Manage with emphasis on wildlife habitat enhancement. Species of concern are mule deer, mountain beaver, and species associated with old growth timber. Secondary emphasis on visual resources and recreation.

#### ***Decisions***

- Acquire 1,751 acres of private land west of U. S. Highway 395 in the Walker/Coleville area to protect mule deer winter range and enhance scenic values.



- Manage the area to conform to the following VRM standards:
  - VRM I - Slinkard Valley.
  - VRM III - North of State Highway 89 and east of Antelope Valley.
  - VRM II - Remainder of the area.
- Provide recreation opportunities and interpretation of waterfowl at Topaz Lake.
- Protect crucial mule deer habitat with the following restrictions:
  - Yearlong protection of mule deer winter range east of Eastside Lane.
- Designate most of the management area as the Slinkard Area of Critical Environmental Concern (ACEC) to protect wildlife habitat of concern, to enhance recreation opportunities, and to protect scenic values.
  - Maintain and improve habitat conditions for mountain beaver (Category 2 species) by limiting the types of uses and vegetative treatments allowed in riparian zones, particularly the aspen and willow groves.
  - Manage Mill Creek, Slinkard Creek, Slinkard Creek Tributary 1 and 2, and the unnamed creek along Golden Gate Mine Road so that they remain suitable for reintroduction of cutthroat trout.
  - Protect and interpret the historic Golden Gate Mine site.
  - Yearlong protection of old growth timber stands.
- Increase quail populations in the Walker burn area by improving habitat.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 50 acres of riparian area as to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 120 acres of aspen groves to improve habitat for mule deer, black bear, and small mammals and birds, and to reduce erosion.
- Meet DPC goals on 250 acres of old growth to maintain diverse habitat for pine marten, blue grouse, black bear, goshawk, and mountain beaver, and to ensure adequate forest regeneration.
- Meet DPC goals on 7,435 acres of pinyon-juniper to improve habitat for mule deer, black bear, and cavity nesting species.
- Meet DPC goals on 850 acres of sagebrush-bitterbrush to provide cover and forage for mule deer.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Consolidate salable minerals to one pit.
- Prohibit livestock grazing on the Dry Canyon and Slinkard Valley allotments.
- Actions within the State-designated corridor of the Walker River will be consistent with the State Wild and Scenic River designation.
- Designate a scenic byway along portions of State Highway 89.
- Prohibit timber harvesting in old growth areas. Allow commercial and non-commercial fuelwood harvesting of live pinyon and juniper in stands where opening the canopy would improve wildlife habitat diversity. Dead wood may be collected only for campfires, and may not otherwise be removed.
- Employ full suppression techniques against most wildfires. Blading by bulldozer or other heavy equipment will not be done in old growth timber stands.

#### ***Support Needs***

- Seek cooperation from BLM-Carson City District and Toiyabe National Forest to jointly designate State Highway 89 as a scenic byway.
- Develop two primitive trails in the Slinkard ACEC.
- Monitor water quality to determine the impacts of cattle and recreational use.

- Develop mule deer water sources east of Eastside Lane.
- Develop an HMP for the West Walker deer herd.
- Develop water sources for upland game birds to increase native quail populations.
- Develop an activity plan for the Slinkard ACEC.
- Implement measures to restore meadows and control erosion in Slinkard Valley and Little Antelope Valley to improve habitat for trout and other riparian dependent species.
- Identify the salable mineral pit to remain open.

### **Coleville MA - Alternative 4: Proposed Action**

#### *Management Theme*

- Manage with emphasis on wildlife habitat enhancement. Species of concern are mule deer, mountain beaver, and species associated with old growth timber. Secondary emphasis on visual resources and recreation.

#### *Decisions*

- Dispose of Bureau land to patent existing recreation and public purpose leases for the Walker Landfill and the Toiyabe Indian Health Clinic.
- Acquire 960 acres of private land west of U. S. Highway 395 in the Walker/Coleville area to protect mule deer winter range and enhance scenic values. No private homes or residential developments will be acquired.
- Manage the area to conform to the following VRM standards:
  - VRM I - Slinkard Valley.
  - VRM III - North of State Highway 89 and east of Antelope Valley.
  - VRM II - Remainder of the area.
- Provide recreation opportunities and interpretation of cultural and natural resources.
- Protect crucial mule deer habitat with the following restrictions:

— Yearlong protection of mule deer winter range east of Eastside Lane.

- Designate portions of the Slinkard Valley and Little Antelope Valley as the Slinkard ACEC to protect wildlife habitat, to enhance recreation opportunities, and to protect scenic values.
  - Maintain and improve habitat conditions for mountain beaver (Category 2 species) by limiting the types of uses and vegetative treatments allowed in riparian zones, particularly the aspen and willow groves.
  - Manage Mill Creek, Slinkard Creek, Slinkard Creek Tributary 1 and 2, and the unnamed creek along Golden Gate Mine Road so that they remain suitable for reintroduction of cutthroat trout.
  - Protect and interpret the historic Golden Gate Mine site.
  - Yearlong protection of old growth timber stands.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 50 acres of riparian to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 120 acres of aspen groves to improve habitat for mule deer, black bear, and small mammals and birds, and to reduce erosion.
  - Meet DPC goals on 250 acres of old growth to maintain diverse habitat for pine marten, blue grouse, black bear, goshawk, and mountain beaver, and to ensure adequate forest regeneration.
  - Meet DPC goals on 7,435 acres of pinyon-juniper to improve habitat for mule deer, black bear, and cavity nesting species.
  - Meet DPC goals on 850 acres of sagebrush-bitterbrush to provide cover and forage for mule deer.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.

- Consolidate salable minerals to one pit.
- Prohibit livestock grazing on the Dry Canyon and Slinkard Valley allotments.
- Actions within the State-designated corridor of the Walker River will be consistent with the State Wild and Scenic River designation.
- Designate scenic byways along U.S. Highway 395 and portions of State Highway 89.
- Prohibit timber harvesting in old growth areas. Allow commercial and non-commercial fuelwood harvesting of live pinyon and juniper in stands where opening the canopy would improve wildlife habitat diversity. Dead wood may be collected only for campfires, and may not otherwise be removed.
- Employ full suppression techniques against most wildfires. Blading by bulldozer or other heavy equipment will not be done in old growth timber stands.

#### **Support Needs**

- Seek cooperation from BLM-Carson City District and Toiyabe National Forest to jointly designate U.S. Highway 395 and State Highway 89 as scenic byways.
- Develop two primitive trails in the Slinkard ACEC.
- Monitor water quality to determine the impacts of cattle and recreational use.
- Develop mule deer water sources east of Eastside Lane.
- Develop an HMP for the West Walker deer herd.
- Develop water sources for upland game birds to increase native quail populations.
- Develop an activity plan for the Slinkard ACEC.
- Implement measures to restore meadows and control erosion in Slinkard Valley and Little Antelope Valley to improve habitat for trout and other riparian dependent species.
- Develop protective and interpretive measures for the Golden Gate Mine site.

#### **Rationale**

The Coleville Management Area has significant natural resources including old growth timber, key deer winter range, potential habitat for Lahontan cutthroat trout, and important habitat for diverse wildlife species such as pine marten, blue grouse, black bear, mountain beaver and waterfowl. The natural resources are receiving increased pressure from expanding communities and dispersed uncontrolled recreation use. There is tremendous potential to increase and manage recreation use; many visitors who pass through the area do not realize the recreation opportunities on nearby Bureau land.

This alternative protects and enhances natural resources and improves recreation opportunities. It also provides some land for local community services. With more intensive management, it will be possible to both increase recreational use and decrease the adverse impacts. The local economy would benefit more from increased tourism than by short-term consumptive uses of timber and other natural resources.

### **Bridgeport Valley Management Area**

#### **Alternative 1: No Action/Continuation of Present Management**

##### **Management Theme**

- Provide lands for the Bridgeport Valley community while emphasizing recreation, scenic, cultural, and wildlife values in the rest of the management area (Virginia Creek and Dog Creek).

##### **Decisions**

- Dispose of 506 acres of Bureau land to provide for residential expansion and community services.
- Manage the area to conform to the following VRM standards:
  - VRM III - The north half of Bridgeport Valley.
  - VRM II - Remainder of the area.
- Saleable minerals will continue to be available at the Travertine area and near Green Creek in Sections 21 and 24.
- Maintain Travertine Hot Springs as an ACEC to protect geologic and cultural resources and to improve recreation opportunities.

- Protect the geologic, interpretive and cultural resources of the site from further degradation.
  - Improve public recreation access to the site and facilitate recreation use of the site.
  - Clean up debris and reclaim the area where feasible to improve aesthetics and public health and safety needs.
  - Allow sale of travertine material within the above goals.
  - Geothermal exploration and development can occur within the context of the identified goals.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees of all species. Allow commercial fuelwood harvesting of live or dead trees of all species only to improve wildlife habitat or meet other management goals.

#### **Support Needs**

- Acquire vehicle access to Bureau lands on the west side of Bridgeport Reservoir.
- Reevaluate the BLM/Mono County Bridgeport Marina cooperative agreement.
- Develop a cooperative management plan with USFS for future recreational use of the area. Emphasize recreation management along Virginia Creek between Conway Summit and the boundary of the Toiyabe National Forest.
- Prevent impairment and provide appropriate interpretation of the historic Dynamo Pond electric line.
- Evaluate critical wildlife habitats for possible ACEC designation.
- Determine existing water quality in areas suspected of being impacted by Bureau land uses.
- Inventory water use needs.
- Develop geothermal leasing and development stipulations responsive to the goals of the Travertine Hot Springs area.

- Develop an agreement with Toiyabe National Forest for grazing (it should be incorporated with their Mount Jackson allotment.)
- Evaluate Travertine Hot Springs for Native American significance.
- Explore cooperative management of the Travertine ACEC with Native Americans and other groups.
- Develop AMPs on the Dog Creek and Green Creek allotments.

### **Bridgeport Valley MA - Alternative 2 - Custodial Management**

#### **Management Theme**

- Manage for geothermal and mineral development and satisfy demand for community expansion.

#### **Decisions**

- Dispose of 506 acres of Bureau land to provide residential expansion and community services.
  - Manage the area to conform to VRM Class III standards.
  - Salable minerals would continue to be provided at the Travertine area and near Green Creek in Section 21 and 28.
  - Provide rip-rap and topsoil material sources on the east side of Bridgeport Valley.
  - Maintain Travertine Hot Springs as an ACEC to protect geologic and cultural resources and to improve recreation opportunities.
- Protect the geologic, interpretive and cultural resources of the site from further degradation.
  - Improve public recreation access to the site and facilitate recreation use of the site.
  - Clean up debris and reclaim the area where feasible to improve aesthetics and public health and safety needs.
  - Allow sale of travertine material within the above goals.
  - Geothermal exploration and development can occur within the context of the identified goals.



- Allow non-commercial fuelwood harvesting of dead (down or standing) trees of all species. Allow commercial fuelwood harvesting of live or dead trees of all species only to improve wildlife habitat or meet other management goals.
- Employ full suppression techniques against all wildfires. The goals to keep 90 percent of the fires under 10 acres.

### **Support Needs**

- Prepare ACEC plan for Travertine Hot Springs.
- Explore cooperative management of the Travertine ACEC with Native Americans and other groups.

## **Bridgeport Valley MA - Alternative 3: Natural Resource Enhancement**

### **Management Theme**

- Emphasize scenic, recreation, cultural, and wildlife values.

### **Decisions**

- Acquire 2,175 acres of private land to protect riparian areas, wildlife habitat, recreation opportunities, and scenic values.
- Protect and interpret the historic Dogtown site.
- Identify and provide for recreational target shooting within 5 miles of Bridgeport.
- Enhance dispersed recreation opportunities such as hunting, fishing, wildlife viewing, hiking, camping, biking, and snowmobiling.
- Manage the area to conform to the following VRM standards:
  - VRM I - Conway Summit ACEC.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 100 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 630 acres of aspen groves to improve habitat for mule deer, black bear, and small mammals and birds, and to reduce erosion.

- Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
- Meet DPC goals on 1,780 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Manage the marshes in Section 18 and 19 on the west side of Bridgeport Valley for waterfowl hunting and wildlife viewing.
- The following stream reaches will be proposed for withdrawal from locatable mineral exploration and development:
  - Dog Creek from Dunderberg Creek to 1.5 miles downstream.
  - Virginia Creek from the National Forest boundary downstream to the south boundary of the Dogtown locatable mineral withdrawal area.
- Designate the Conway Summit area as an ACEC to protect scenery and enhance dispersed recreation opportunities.
  - Yearlong protection of the ACEC.
  - Manage the ACEC to conform to VRM I standards.
  - Prohibit livestock grazing within the ACEC.
  - Manage the ACEC to enhance dispersed recreation opportunities such as winter sports, camping, mountain biking, and hiking.
- Maintain Travertine Hot Springs as an ACEC to enhance recreation opportunities, and to protect threatened and endangered species habitat, unique geologic features and cultural resources.
  - Yearlong protection of the ACEC
  - Prohibit geothermal leasing within a 1-mile radius of the hot springs. This area may be adjusted based on future hydrologic studies.
  - Prohibit shooting in the ACEC



— The ACEC is proposed for withdrawal from locatable mineral exploration and development.

- Allow fuelwood cutting where it will enhance wildlife habitat or achieve DPC goals.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment will not be done in the viewshed west of U. S. Highway 395, in riparian areas or in aspen groves.
- Designate a scenic byway along U.S. Highway 395.

#### **Support Needs**

- Acquire access around Bridgeport Reservoir (avoid waterfowl habitat) to enhance recreation opportunities.
- Develop interpretive facilities at waterfowl areas in Sections 18 and 19.
- Provide a BLM information outpost at the Dogtown historic marker on U.S. Highway 395.
- Develop a cooperative management plan with USFS for future recreational use of the area. Emphasize recreation management along Virginia Creek between Conway Summit and the boundary of the Toiyabe National Forest.
- Develop HMPs for the East Walker and Mono Lake deer herds.
- Coordinate the relinquishment and rehabilitation of selected mineral material pits with CalTrans. Keep the Green Creek mineral material pits open.
- Develop an AMP for the Green Creek allotment.
- Develop an activity plan for the Travertine ACEC addressing recreation, threatened and endangered species, geologic features, and cultural and Native American values.
- Develop an activity plan for the Conway Summit ACEC with emphasis on mountain bike trails, hiking trails, and winter sports.
- Explore cooperative management of the Travertine ACEC with Native Americans and other groups.
- Seek cooperation with USFS to jointly designate U.S. Highway 395 a scenic byway.

## **Bridgeport Valley MA - Alternative 4: Proposed Action**

### **Management Theme**

- Emphasize scenic, recreation, cultural, and wildlife values in the Virginia Creek and Dog Creek areas while accommodating some socio-economic demands in the vicinity of Bridgeport.

### **Decisions**

- Dispose of 270 acres of Bureau land to provide residential expansion and community services.
- Acquire 1,338 acres of private land to protect riparian areas, wildlife habitat, and scenic values.
- Protect and interpret the historic Dogtown site.
- Enhance dispersed recreation opportunities such as hunting, fishing, wildlife viewing, hiking, camping, biking, and snowmobiling.
- Manage the area to conform to the following VRM standards:
  - VRM I - Conway Summit ACEC.
  - VRM II - Southern block of Bureau lands.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 100 acres of riparian to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 470 acres of aspen groves to improve habitat for mule deer, black bear, small mammals and birds, and to reduce erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
  - Meet DPC goals on 1,780 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the

dominant plant by composition, pinyon-juniper and south facing sagebrush type.

- Manage the marshes in Section 18 and 19 on the west side of Bridgeport Valley for waterfowl hunting and wildlife viewing.
- The following stream reaches will be proposed for withdrawal from locatable mineral exploration and development:
  - Dog Creek from Dunderberg Creek to 1.5 miles downstream.
  - Virginia Creek from the National Forest boundary to the south boundary of the Dogtown locatable mineral withdrawal area.
- Designate the Conway Summit area as an ACEC to protect scenery and enhance dispersed recreation opportunities.
  - Yearlong protection of the ACEC
  - Prohibit livestock grazing on the Conway Summit acquired lands
  - Manage the ACEC to conform to VRM I standards.
  - Enhance opportunities for dispersed recreation opportunities such as winter sports, camping, mountain biking, and hiking.
- Maintain Travertine Hot Springs as an ACEC to enhance recreation opportunities, and to protect threatened and endangered species habitat, unique geologic features and cultural resources.
  - Yearlong protection of the ACEC
  - Prohibit geothermal leasing within a 1-mile radius of the hot springs. This area may be adjusted based on future hydrologic studies.
  - Prohibit shooting in the ACEC
  - The ACEC is proposed for withdrawal from locatable mineral exploration and development.
- Allow fuelwood cutting where it will enhance wildlife habitat or achieve DPC goals.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment will not be done in the viewshed west of U. S. Highway 395, in riparian areas or in aspen groves.

- Designate a scenic byway along U.S. Highway 395.

### **Support Needs**

- Acquire access around Bridgeport Reservoir (avoid waterfowl habitat) to enhance recreation opportunities.
- Develop interpretive facilities at waterfowl areas in Sections 18 and 19.
- Provide a BLM information outpost at the Dogtown historic marker on U. S. Highway 395.
- Develop a cooperative management plan with USFS for future recreational use of the area. Emphasize recreation management along Virginia Creek between Conway Summit and the boundary of the Toiyabe National Forest.
- Develop and implement HMPs for the East Walker and Mono Lake deer herds.
- Coordinate the relinquishment and rehabilitation of selected mineral material pits with Caltrans. Keep the Green Creek mineral material pits open.
- Develop an AMP for the Green Creek allotment.
- Develop an activity plan for the Travertine ACEC addressing recreation, threatened and endangered species, geologic features, and cultural and Native American values.
- Develop an activity plan for the Conway Summit ACEC with emphasis on mountain bike trails, hiking trails, and winter sports.
- Explore cooperative management of the Travertine ACEC with Native Americans and other groups.
- Seek cooperation of USFS to jointly designate U. S. Highway 395 a scenic byway.

### **Rationale**

Spectacular scenery, important riparian habitat, significant recreation opportunities and cultural resources in the Bridgeport Valley Management Area contrast with other important land uses such as mineral development, rights-of-way, and community expansion needs.

The Conway Summit ACEC and VRM I classification will protect the spectacular scenery and enhance other compatible uses such as dispersed recreation and

camping. Rights-of-way can be routed east of U. S. Highway 395 along an existing electric line in a VRM III area.

Riparian habitat, cultural and other values will be protected by the locatable mineral withdrawals proposed for Dog Creek, Virginia Creek, the Dogtown historic site, and the Travertine ACEC. These areas have potential for mineral development and the sensitive resources can be protected only by withdrawing these lands. Valid existing mineral rights would be recognized, and most of the management area would remain open to mining.

Geothermal leasing is prohibited within one mile of Travertine Hot Springs. This protects special status species, recreation opportunities, geologic features, and cultural values. The area closed to leasing can be modified if hydrologic studies show a larger or smaller area would be appropriate to protect these resources.

Providing land for community services and residential expansion near Bridgeport will help the local economy. Recreation improvements such as interpretive facilities and access around Bridgeport Reservoir would increase tourism in the area and support the local economy.

## **Bodie Hills Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### **Management Theme**

- Provide continued opportunities for livestock grazing, mining, and the possible development of geothermal resources with the understanding that such activities may be restricted or eliminated at site-specific locations to protect or enhance scenic, cultural, recreational, wildlife, or watershed values.

#### **Decisions**

- Prohibit shooting within 200 yards of the Bodie State Park boundary.
- Manage the area to conform to the following VRM standards:
  - VRM II - Bodie Bowl and southern edge of management area.
  - VRM III - Remainder of the area.

- Yearlong protection for the Bodie Bowl. Geothermal leasing is allowed. No surface occupancy for geothermal exploration and development. No physical structures or improvements will be placed on the Bureau land unless in harmony with or complementary to historic or visitor use values.
- Retain the Travertine Hot Springs ACEC (see Bridgeport Valley Management Area for decisions).
- Prohibit fuelwood harvesting.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment in the Bodie Bowl will be done only when absolutely necessary to protect structures and facilities or ensure visitor safety.

#### **Support Needs**

- Develop AMPs on the Travertine Hills, Little Mormon, Bodie Mountain, Potato Peak, Mormon Ranch, Aurora Canyon, and Mount Beideman allotments.

### **Bodie Hills MA - Alternative 2 - Custodial Management**

#### **Management Theme**

- Manage livestock grazing and mineral development (including geothermal) within legally mandated constraints.

#### **Decisions**

- Dispose of 62 acres of Bureau land for residential expansion.
- Prohibit shooting within 200 yards of the Bodie State Park boundary.
- Manage the area to conform to the following VRM standards:
  - VRM II - Bodie Bowl.
  - VRM III - Remainder of the area.
- Yearlong protection for the Bodie Bowl SRMA. Geothermal leasing is allowed. No surface occupancy for geothermal exploration and development. No physical structures will be placed on Bureau land unless in harmony with or complementary to historic or visitor use values.
- Retain the Travertine Hot Springs ACEC (See Bridgeport Valley Management Area for decisions).

- Allow non-commercial fuelwood harvesting of live or dead trees.
- Employ full suppression techniques against all wildfires.

#### **Support Needs**

- Develop AMPs for the Bodie Mountain and Mormon Ranch allotments.

### **Bodie Hills MA - Alternative 3: Natural Resource Enhancement**

#### **Management Theme**

- Manage to improve wildlife habitat, enhance recreation opportunities, and protect scenic and historical values.

#### **Decisions**

- Acquire 13,825 acres of private land to enhance wildlife habitat and protect riparian, recreation, and cultural resources.
- Enhance dispersed recreation opportunities such as OHV touring, dispersed camping, mountain biking, snowmobiling, fishing, cross-country skiing, sightseeing, and environmental interpretation.
- Manage the area to conform to the following VRM standards:
  - VRM I - Bodie Bowl.
  - VRM II - Main travel routes.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 190 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 940 acres of aspen groves to improve habitat for mule deer, black bear, and small mammals and birds, and to reduce erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
- Meet DPC goals on 26,915 acres of pinyon-juniper to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.
- Meet DPC goals on 25,250 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Achieve and/or maintain a minimum of 80% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Stabilize and restore selected stream channels (Aurora Canyon, Hot Springs Canyon, Rough Creek and all tributaries, Atastra Creek, Cottonwood Creek, Bodie Creek, Clark Canyon, and Clearwater Creek) to improve aquatic habitat quality. Target specific improvements to:
  - Increase base flow and channel water storage capacity.
  - Reduce turbidity and sedimentation.
  - Create and aquatic environment to support fish and invertebrate species.
  - Reduce water temperatures in summer (60° F or less).
  - Maintain healthy trout populations (Platts et al., 1982).
  - Maintain water quality good enough for human use in all streams mentioned.
- Seasonal protection and no snowmobile use in sage grouse wintering area from 11/15-3/1.
- Class of livestock will be changed from cattle to sheep on the Aurora Canyon, Bodie Mountain, Potato Peak, and Travertine Hills allotments.
- Designate a scenic byway along Geiger Grade and Bodie Road and a backcountry byway from Bodie State Park to Aurora.
- Designate the Bodie Bowl, the Potato Peak area, the Rough Creek area, and the Beauty Peak area as the Bodie Mountain ACEC to protect wildlife habitat and historic values and to enhance recreation opportunities.



- The management objectives in the Bodie Bowl are to preserve the existing historical integrity of the landscape. This will not preclude very limited management activity. The level of change to the historic landscape must be consistent with the ACEC goals.
- Yearlong protection of the ACEC.
- Prohibit shooting in the Bodie Bowl.
- The Bodie Bowl is a Special Recreation Management Area.
- Propose a locatable mineral withdrawal for the Bodie Bowl.
- Designate a portion of the Copper Mountain allotment as an ACEC to protect habitat for mule deer, mountain beaver, and other species of concern.
  - Prohibit livestock grazing on the Copper Mountain allotment.
- Retain the Travertine Hot Springs ACEC (See Bridgeport Valley Management Area for decisions).
- Allow commercial and non-commercial fuelwood (and Christmas tree) harvesting of live trees where it will enhance wildlife habitat or meet DPC goals. No dead wood may be removed.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment in the Bodie Bowl and within the viewshed of county roads will be done only when necessary to protect structures and ensure visitor safety. Blading will not be done in riparian areas or in aspen groves.
- Construct 4WD routes to provide a loop system through Big Alkali Flat and the eastern Bodie Hills.
- Construct a foot/horse/mountain bike route from Bodie Creek Road to China Camp (coordinate with Toiyabe National Forest).
- Incorporate an interpretive element to highlight Mono Diggins, wildlife values, geologic values, cultural values, etc.
- Fence selected primitive camping areas from livestock to enhance camping experience. Conduct inventory to identify potential areas to be fenced.
- Develop cooperative agreements or acquire conservation easements on private lands to meet recreation goals and protect visual resources.
- Conduct water quality inventories near mining activity.
- Develop a joint sage grouse and mule deer HMP with CDF&G.
- Prepare and implement joint habitat projects with the Mule Deer Foundation, Ducks Unlimited and Quail Unlimited.
- Identify mineral material sources near Bridgeport and U. S. Highway 395.
- Develop or revise AMPs as needed to meet DPC and stream improvement goals.
- Prepare activity plans for Bodie Mountain, Travertine, and Copper Mountain ACECs.
- Use prescribed burning to support DPCs, fire prevention, and habitat needs in areas where fire suppression is not wanted.
- Modify the fire suppression plan to incorporate fire-related decisions.
- Coordinate backcountry byway designation with Toiyabe National Forest and Bodie State Historic Park.

#### ***Support Needs***

- Coordinate with CalTrans the relinquishment and rehabilitation of mineral material pits to meet viewshed objectives.
- Coordinate with Mono County to reduce adverse impacts of road maintenance.
- Develop an activity plan for recreation use to include the following:
  - Construct the following mountain bike/foot/horse trails: (1) from Rough Creek to Milk Ranch Canyon, (2) along the railroad grade from Mono Basin to Bodie State Park, (3) connecting Clark Canyon Road to Travertine Hot Springs.

#### **Bodie Hills MA - Alternative 4: Proposed Action**

##### ***Management Theme***

- Manage to improve wildlife habitat, enhance recre-



ation opportunities, and protect scenic and historical values.

### Decisions

- Acquire 5,725 acres of private land to enhance wildlife habitat and protect riparian, recreation, and cultural resources.
- Dispose of 2 acres of Bureau land to provide for residential expansion.
- Enhance dispersed recreation opportunities such as OHV touring, primitive camping, mountain biking, snowmobiling, fishing, cross-country skiing, sightseeing, and environmental interpretation.
- Manage the area to conform to the following VRM standards:
  - VRM I - Bodie Bowl.
  - VRM II - Main travel routes.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 95 acres of riparian to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 470 acres of aspen groves to improve habitat for mule deer, black bear, and small mammals and birds, and to reduce erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
  - Meet DPC goals on 26,915 acres of pinyon-juniper to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.
  - Meet DPC goals on 25,250 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Vehicle routes impacting important mule deer and sage grouse concentration areas will be closed, seasonally closed or rerouted to improve and protect habitat.
- Stabilize and restore selected stream channels (Aurora Canyon, Hot Springs Canyon, Rough Creek and all tributaries, Atastra Creek, Cottonwood Creek, Bodie Creek, Clark Canyon, and Clearwater Creek) to improve aquatic habitat quality. Target specific improvements to:
  - Increase base flow and channel water storage capacity.
  - Reduce turbidity and sedimentation.
  - Create an aquatic environment to support fish and invertebrate species.
  - Reduce water temperatures in summer (60° F or less).
  - Maintain health trout populations (Platts et al., 1982).
- Seasonal protection and no snowmobile use in sage grouse wintering areas from 11/15-3/1.
- Encourage conversion from cattle to sheep on all grazing allotments. Class of use will be changed from cattle to sheep if existing leases are relinquished or transferred.
- Prohibit grazing on the Copper Mountain allotment to reduce conflicts with wildlife.
- Designate a scenic byway along Geiger Grade and Bodie Road and a backcountry byway from Bodie State Park to Aurora.
- Designate the Bodie Bowl as an ACEC to protect visual and historic values in accordance with the cooperative agreement with Bodie State Park.
  - The objectives in the Bodie Bowl are to preserve the existing historical integrity of the landscape. This will not preclude very limited management activity. The level of change to the historic landscape must be consistent with the ACEC and landmark goals.
  - Prohibit activities which affect the National Landmark adversely [36 CFR 800.9 (a,b)] using standards and guidelines to determine when unnecessary and undue degradation occurs.

- Prohibit shooting in the Bodie Bowl.
- The Bodie Bowl is a Special Recreation Management Area.
- Retain the Travertine Hot Springs ACEC (See Bridgeport Valley Management Area for decisions).
- Allow commercial and non-commercial fuelwood (and Christmas tree) harvesting of live trees where it will enhance wildlife habitat or meet DPC goals. No dead wood may be removed.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment in the Bodie Bowl and within the viewshed of county roads will be done only when necessary to protect structures and ensure visitor safety. Blading will not be done in riparian areas or in aspen groves.

#### ***Support Needs***

- Coordinate with CalTrans the relinquishment and rehabilitation of mineral material pits to meet viewshed objectives.
- Coordinate with Mono County to reduce adverse impacts of road maintenance.
- Develop an activity plan for recreation use to include the following:
  - Construct the following mountain bike/foot/horse trails: (1) from Rough Creek to Milk Ranch Canyon, (2) along the railroad grade from Mono Basin to Bodie State Park, (3) connecting Clark Canyon Road to Travertine Hot Springs.
  - Construct 4WD routes to provide a loop system through Big Alkali Flat and the eastern Bodie Hills.
  - Construct a foot/horse/mountain bike route from Bodie Creek Road to China Camp (coordinate with Toiyabe National Forest).
  - Incorporate an interpretive element to highlight Mono Diggins, wildlife values, geologic values, cultural values, etc.
  - Fence selected primitive camping areas from livestock to enhance camping experience. Conduct inventory to identify potential areas to be fenced.

- Conduct water quality inventories near mining activity.
- Develop a joint sage grouse and mule deer HMP with CDF&G.
- Prepare and implement joint habitat projects with the Mule Deer Foundation, Ducks Unlimited and Quail Unlimited.
- Coordinate with CDF&G to introduce fishable species and the Lahontan cutthroat trout.
- Identify mineral material sources near Bridgeport and U. S. Highway 395.
- Develop or revise AMPs as needed to meet DPC and stream improvement goals.
- Prepare activity plans for Bodie Bowl and Travertine ACECS.
- Use prescribed burning to support DPCs, fire prevention, and habitat needs in areas where fire suppression is not wanted.
- Modify the fire suppression plan to incorporate fire-related decisions.
- Identify and implement closure or seasonal closure of vehicle routes impacting mule deer and sage grouse concentration areas through the Bodie Hills CRMP process.
- Formulate guidelines to prevent unnecessary and undue degradation in the Bodie Historic Landmark.
- Coordinate backcountry byway designation with the Toiyabe National Forest and Bodie State Historical Park.

#### ***Rationale***

This alternative will accommodate a wide variety of uses, while protecting and improving sensitive areas and resources.

The Bodie Bowl has been the focus of considerable controversy, due to potential impacts of mining on Bodie. This alternative will limit mining or other uses which would diminish the historic integrity of the National Landmark. The management area will remain open to mining.

Land use authorizations will be allowed on the west side of the management area where most of the demand is anticipated.

In addition to "yearlong protection" restrictions and DPC goals, specific actions would be taken to restore and stabilize riparian areas. Several thousand acres of meadows and several miles of stream on private land would also be acquired.

Intensive recreation management would decrease adverse impacts in sensitive areas while enhancing recreation opportunities in much of the Bodie Hills Management Area.

## **Granite Mountain Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### ***Management Theme***

- Manage to protect and enhance scenic, wildlife, botanical, and air quality and to improve livestock forage.

#### ***Decisions***

- Dispose of 80 acres of Bureau land near Mono City to provide for residential expansion and community services.
- Acquire 3,200 acres of private land in Adobe Valley for wildlife habitat.
- Manage the area to conform to the following VRM standards:
  - VRM II - The viewshed on main travel routes in Mono Basin.
  - VRM III - The remainder of the area.
- Maintain existing composition of sagebrush-bitterbrush and pinyon-juniper complexes.
- Improve waterfowl habitat at Adobe and Antelope Lakes.
- Provide habitat for the Montgomery Pass wild horse herd in Adobe Valley and East Mono Basin as per the HMP.
- Prohibit grazing in the Larkin Lake allotment to protect and enhance wetland habitat.
- Cattle use will be authorized for the Frazier Canyon allotment only after permittees have completed identified fencing and facility requirements.

- Allow non-commercial fuelwood harvesting of dead (down or standing) trees of all species. Allow commercial fuelwood harvesting of live or dead trees of all species only to improve wildlife habitat or meet other management goals. Fuelwood may be harvested between May 1 and November 15 of each year.
- Employ full suppression techniques in the Mono Basin, but minimize surface disturbance. Employ prescribed fire in most areas of Adobe Valley; employ full suppression in Adobe Valley only when human life, pinyon/juniper or sagebrush/bitterbrush plant communities are threatened.

#### ***Support Needs***

- Develop a waterfowl HMP for Adobe and Antelope Lakes.
- Coordinate grazing in the Granite Mountain and Symons allotments with adjacent USFS allotments.
- Work with the permittee of the Granite Mountain allotment to determine the grazing system to be implemented.
- Chemically control 3,760 acres of sagebrush on the Adobe Valley allotment.
- Improve the water distribution in pastures 4 and 5 west of State Highway 120.
- Fence the Larkin Lake allotment along the California/Nevada state line.

### **Granite Mountain MA - Alternative 2 - Custodial Management**

#### ***Management Theme***

- Manage for livestock grazing and locatable mineral exploration and development with minimal restrictions.

#### ***Decisions***

- Dispose of 80 acres north of Mono City to provide for residential expansion and community services.
- Manage the area to conform to VRM Class III standards.
- Provide habitat for wild horses in Adobe Valley and east Mono Basin as per the HMP for the Montgomery Pass herd.

- Cattle use will be authorized for the Frazier Canyon allotment only after permittees have completed identified fencing and facility requirements.
- Allow commercial timber harvest of Jeffrey pine at Dry Creek. Allow commercial and non-commercial fuelwood harvesting of live or dead trees of all species.
- Employ full suppression techniques against all wildfires.

#### *Support Needs*

- Mark and appraise timber; prepare timber sale contract.

### **Granite Mountain MA - Alternative 3: Natural Resource Enhancement**

#### *Management Theme*

- Protect and enhance wildlife habitat and scenic values and provide opportunities for dispersed recreation.

#### *Decisions*

- Acquire 1,120 acres to enhance recreation opportunities.
- Enhance semi-primitive non-motorized and motorized dispersed recreation opportunities in the Mono Basin, Granite Mountain, and Cowtrack Mountain areas. Developed facilities for recreational purposes are to be kept to a minimum and designed for resource protection.
  - No net increase in roads over mileage provided for in OHV studies.
  - Provide interpretive/educational information to recreation users.
  - Designate a scenic byway along State Highway 120 and U.S. Highway 395.
- Manage the area to conform to the following VRM standards:
  - VRM II - Mono Basin, Granite Mountain.
  - VRM III - Adobe Valley.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:

— Meet DPC goals on 10 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.

— Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.

— Meet DPC goals on 25 acres of Jeffrey pine to provide cavity nests and other cover for wildlife, and ensure adequate forest regeneration.

— Meet DPC goals on 8,495 acres of pinyon-juniper to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.

— Meet DPC goals on 17,145 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.

- Stabilize and restore Adobe Creek to meet habitat conditions for a naturally reproducing trout population.
  - Increase base flow and channel water storage capacity by 30%.
  - Do not allow the artificial streambank soil alteration rating to exceed 20%.
- Enhance migratory habitat for the Mono Lake deer herd through selective removal of decadent vegetation.
- Enhance habitat for sage grouse, mule deer, and pronghorn.
- Enhance waterfowl habitat at Larkin, Antelope, Black and Adobe Lakes.
  - Acquire 9,860 acres of private land.
- Protect and enhance raptor nesting and roosting sites in the Dry Creek and Granite Mountain areas.
- Provide habitat for the Montgomery Pass wild horse herd in Adobe Valley and east Mono Basin in accordance with the HMP.
- Yearlong protection within 1 mile of the Mono Basin National Forest Scenic Area to protect the viewshed.
- Prohibit grazing in Larkin Lake and Frazier Canyon allotment to enhance wildlife habitat.
- Yearlong protection of Jeffrey pine at Dry Creek.



- Prohibit commercial timber harvesting of Jeffrey pine at Dry Creek. Allow commercial and non-commercial fuelwood harvesting of dead (down only) trees and live wood where it will further wildlife habitat and DPC goals. Allow commercial and non-commercial Christmas tree harvesting of pinyon in Frazier Canyon where mule deer habitat would be enhanced.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment will not be done in riparian zones.

#### **Support Needs**

- Acquire private lands or scenic easements where development would degrade scenery and violate VRM objectives in Mono Basin.
- Acquire scenic easements in the Cedar Hills and Mono Basin areas.
- Develop an interpretive plan highlighting historic, wildlife, scenic, and geologic values. Focus efforts in the Mono Basin Scenic Area/Bodie travel corridors.
- Implement measures with CDF&G to improve and protect wetland/aquatic habitat in Adobe Valley.
- Fence waterfowl nesting areas from livestock use; limit fenced areas to 160 acres.
- Fence the following springs from livestock: Unnamed at Dutch Pete's, and Indian.
- Construct goose nesting platforms.
- Inventory sage grouse wintering areas and strutting grounds.
- Develop water sources in the Mono Valley/Granite Mountain area for sage grouse, mule deer, and pronghorn.
- Determine raptor nesting site protective zones and measures.
- Coordinate with private landowners at Conway Ranch to retain current fishery and wildlife habitat on Wilson Creek.
- Fence the Larkin Lake allotment along the California/Nevada state line.
- Seek cooperation of USFS to jointly designate U. S. Highway 395 and State Highway 120 as scenic byways.

## **Granite Mountain MA - Alternative 4: Proposed Action**

### **Management Theme**

- Protect and enhance wildlife habitat and scenic values and provide opportunities for dispersed recreation while allowing mineral exploration and development.

### **Decisions**

- Acquire 1,120 acres to enhance recreation opportunities.
- Enhance semi-primitive non-motorized and motorized dispersed recreation opportunities in the Mono Basin, Granite Mountain, and Cowtrack Mountain areas. Developed facilities for recreational purposes are to be kept to a minimum and designed for resource protection.
  - Provide interpretive/educational information to recreation users.
  - Designate U. S. Highway 395 as a scenic byway.
- Manage the area to conform to the following VRM standards:
  - VRM II - Mono Basin, Granite Mountain.
  - VRM III - Adobe Valley.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 8 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
  - Meet DPC goals on 25 acres of Jeffrey pine to provide cavity nests and other cover for wildlife, and ensure adequate forest regeneration.
  - Meet DPC goals on 8,495 acres of pinyon-juniper to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.
  - Meet DPC goals on 8,570 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.



- Stabilize and restore Adobe Creek to meet habitat conditions for a naturally reproducing trout population.
  - Increase base flow and channel water storage capacity by 30%.
  - Do not allow the artificial streambank soil alteration rating to exceed 20%.
- Enhance migratory habitat for the Mono Lake deer herd through selective removal of decadent vegetation.
- Enhance habitat for sage grouse, mule deer, and pronghorn.
- Enhance waterfowl habitat at Larkin, Antelope, Black and Adobe Lakes.
  - Acquire 3,515 acres of private land.
- Protect and enhance raptor nesting and roosting sites in the Dry Creek and Granite Mountain areas.
- Provide habitat for the Montgomery Pass wild horse herd in Adobe Valley and east Mono Basin in accordance with the HMP.
- Prohibit grazing in the Larkin Lake and Frazier Canyon allotments to enhance wildlife habitat.
- Yearlong protection of the Jeffrey pine at Dry Creek.
- Prohibit commercial timber harvest of Jeffrey pine at Dry Creek. Allow commercial and non-commercial fuelwood harvesting of dead (down only) trees and live wood where it will further wildlife habitat and DPC goals. Allow commercial and non-commercial Christmas tree harvesting of pinyon in Frazier Canyon where mule deer habitat would be enhanced.
- Employ full suppression techniques against most wildfires. Blading by bulldozers or other heavy equipment will not be done in riparian zones.
- Develop an interpretive plan highlighting historic, wildlife, scenic, and geologic values. Focus efforts in the Mono Basin Scenic Area/Bodie travel corridors.
- Develop a cooperative management agreement with CDF&G to improve and protect wetland/aquatic habitat in Adobe Valley.
- Fence waterfowl nesting areas from livestock use; limit fenced areas to 160 acres.
- Fence the following springs from livestock: Un-named at Dutch Pete's and Indian.
- Construct goose nesting platforms.
- Inventory sage grouse wintering areas and strutting grounds.
- Develop water sources in the Mono Valley/Granite Mountain area for sage grouse, mule deer, and pronghorn.
- Determine raptor nesting site protective zones and measures.
- Coordinate with private landowners at Conway Ranch to retain current fishery and wildlife habitat on Wilson Creek.
- Fence the Larkin Lake allotment along the California/Nevada state line.
- Seek cooperation of USFS to jointly designate U.S. Highway 395 as a scenic byway.

#### ***Rationale***

This alternative will intensify management and protection of Bureau land with the following benefits:

- DPC goals will improve wildlife habitat and watershed conditions.
- Adobe Creek will be stabilized and restored.
- Key parcels will be acquired to enhance recreation opportunities and protect wildlife habitat.
- Waterfowl habitat will be improved at Larkin, Antelope, Adobe, and Black Lakes.
- Habitat for mule deer, sage grouse, and pronghorn will be enhanced.

Many of these actions are carried forward from present management.

#### ***Support Needs***

- Acquire private lands or scenic easements where private development would degrade scenery and violate VRM objectives in Mono Basin.
- Acquire scenic easements in the Cedar Hills and Mono Basin areas.

Specific restrictions on geothermal and salable mineral development and rights-of-way were considered in Alternative 3 to protect the Mono Basin scenery. These restrictions are not part of the proposed action because the VRM II classification will adequately protect the visual resources near Mono Lake.

## **Long Valley Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### **Management Theme**

- Maintain habitat for existing wildlife (e.g. sage grouse, mule deer, diving beetle, and Owens tui chub). Recreational use and geothermal development are secondary to wildlife.

#### **Decisions**

- Land use authorizations within the Mammoth/June Lake Airport planning area will be consistent with safety mitigation specified in the airport plan. The airport plan restricts the height, lighting, and steam emissions from geothermal and other developments that would interfere with the safe operation of the airport.
- Manage the area to conform to VRM II standards.
- Close the Hot Creek access road from 11/30-3/31 in cooperation with USFS to prevent rutting and damage to adjacent vegetation when the road is wet.
- Maintain unique and important vegetation communities in present condition.
  - Yearlong protection within 150 feet of meadows and riparian areas.
  - Maintain 95% of sensitive plant habitat in a natural (undisturbed) condition. (Livestock disturbance may occur).
- Protect and improve sage grouse habitat.
  - Increase the amount of sagebrush habitat that has optimum characteristics for sage grouse to 60%. (Presently only 30% of the habitat has optimum characteristics.)
  - Limit snowmobile use to designated routes in sage grouse wintering areas from 11/15 to 3/1.

— Manage livestock use to enhance meadow habitat for sage grouse on the Hot Creek and Wilfred Creek allotments.

- Maintain Round Valley mule deer migration corridor.
  - Limit disturbance of vegetation to less than 5%.
  - Prohibit mineral material pits and geothermal leasing south of Convict Creek and west of Crowley Lake.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.
- Employ full suppression techniques against all wildfires, but minimize surface disturbing activities such as blading by bulldozers and other heavy equipment.

#### **Support Needs**

- Develop a sage grouse HMP with CDF&G.
- Develop AMPs for the Hot Creek and Wilfred Creek allotments.

### **Long Valley MA - Alternative 2- Custodial Management**

#### **Management Theme**

- Manage for geothermal development.

#### **Decisions**

- Land use authorizations within the Mammoth/June Lake Airport planning area will be consistent with safety mitigation specified in the airport plan. The airport plan restricts the height, lighting, and steam emissions from geothermal and other developments that would interfere with the safe operation of the airport.
- Dispose of 9 parcels (281 acres) of Bureau land which are difficult or uneconomical to manage.
- Manage the area to conform to VRM III standards.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.
- Employ full suppression techniques against all wildfires. The goal is to keep 90% of the fires under 10 acres.

## Long Valley MA - Alternative 3: Natural Resource Enhancement

### Management Theme

- Enhance wildlife resources and sensitive plant species. Wildlife of particular concern are sage grouse, mule deer, diving beetle, Owens tui chub, Great Basin springsnail, and Owens speckled dace. Sensitive plants include *Astragalus johannis howellii* (Long Valley milkvetch), *Eriogonum ampullaceum* (Mono buckwheat), and *astragalus monoensis* (Mono milkvetch). Recreational use and geothermal development are secondary to wildlife.

### Decisions

- Land use authorizations within the Mammoth/June Lake Airport planning area will be consistent with safety mitigation specified in the airport plan. The airport plan restricts the height, lighting, and steam emissions from geothermal and other developments that would interfere with the safe operation of the airport.
- Provide recreation opportunities such as mountain biking, camping, and interpretation of natural and geologic features. Provide for recreational hot spring use while mitigating impacts to threatened and endangered species, riparian areas, and wet meadows.
- Manage the area to conform to VRM II standards.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 35 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and to control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and to reduce erosion.
  - Meet DPC goals on 610 acres of Jeffrey pine to provide cavity nests and other cover for wildlife, and to insure adequate forest regeneration.
  - Meet DPC goals on 1,100 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Protect crucial mule deer habitats with the following restrictions and actions:

- Yearlong protection of the mule deer migration corridor.
- Acquire 950 acres to protect the mule deer migration corridor.
- Acquire 1,680 acres to protect and enhance habitat for sage grouse, the diving beetle, and Owens dace.
- Designate the northwestern portion of the Long Valley Management Area as an ACEC to enhance and protect sage grouse habitat.
  - Seasonal protection and no snowmobile use in sage grouse wintering areas from 11/15 to 3/1.
  - Manage livestock use to enhance meadow habitat for sage grouse on Hot Creek and Wilfred Creek allotments.
- Prohibit fuelwood harvesting.
- Employ full suppression techniques against wildfires on Bureau lands. Blading by bulldozers or other heavy equipment will be minimized in prominent viewsheds (hillsides, overlooks, etc.) of U. S. Highway 395, Crowley Lake Campground, McGee Creek Road, Benton Crossing Road, and Little Round Valley Road.
- Designate a scenic byway along U.S. Highway 395.

### Support Needs

- Prepare an activity plan for hot springs management, mountain bike trail development, dispersed camping and other recreation.
- Prepare an activity plan for the ACEC.
- Coordinate with Mono County to protect sage grouse.
- Prepare an HMP for the Round Valley deer winter range and migration corridor.
- Coordinate with CalTrans on the relinquishment and rehabilitation of mineral material pits.
- Develop AMPs for the Hot Creek and Wilfred Creek allotments.
- Seek cooperation of USFS to jointly designate U.S. Highway 395 a scenic byway.

## Long Valley MA - Alternative 4- Proposed Action

### Management Theme

- Provide recreation opportunities through improvement of facilities. Enhance wildlife habitat, scenic values, and other environmental features.

### Decisions

- Acquire 555 acres of private land to protect wildlife habitat for sage grouse and deer.
- Land use authorizations within the Mammoth/June Lake Airport planning area will be consistent with safety mitigation specified in the airport plan. The airport plan restricts the height, lighting, and steam emissions from geothermal and other developments that would interfere with the safe operation of the airport.
- Provide recreation opportunities such as mountain biking, camping, and interpretation of natural and geologic features. Provide for recreational hot spring use while mitigating impacts to threatened and endangered species, riparian areas, and wet meadows.
- Manage the area to conform to VRM II standards.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 35 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and to control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and to reduce erosion.
  - Meet DPC goals on 610 acres of Jeffrey pine to provide cavity nests and other cover for wildlife, and to insure adequate forest regeneration.
  - Meet DPC goals on 1,100 acres of sagebrush-bitterbrush to provide cover and forage for mule deer, and habitat for sage grouse.
- Protect crucial mule deer and sage grouse habitat with the following restrictions:
  - Yearlong protection of the mule deer migration corridor.
  - Acquire 80 acres to protect the mule deer migration corridor.
  - Seasonal protection and no snowmobile use in sage grouse wintering area 11/15 to 3/1.
  - Manage livestock use to enhance meadow habitat for sage grouse on the Hot Creek and Wilfred Creek allotments.
  - Acquire 485 acres to protect and enhance habitat for sage grouse, the diving beetle, and Owens dace.
- Allow commercial and non-commercial fuelwood harvesting of dead (down only) trees.
- Employ full suppression techniques against wildfires on Bureau lands. Blading by bulldozers or other heavy equipment will be minimized in prominent viewsheds (hillsides, overlooks, etc.) of U. S. Highway 395, Crowley Lake Campground, McGee Creek Road, Benton Crossing Road, and Little Round Valley Road.
- Designate a scenic byway along U.S. Highway 395.

### Support Needs

- Prepare an activity plan for hot springs management, interpretation of geologic and other features, mountain bike trail development, dispersed camping and other recreation.
- Prepare an HMP for sage grouse.
- Coordinate with Mono County to protect sage grouse.
- Prepare an HMP for the Round Valley deer winter range and migration corridor.
- Coordinate with CalTrans on relinquishment and rehabilitation of mineral material pits.
- Develop AMPs for the Hot Creek and Wilfred Creek allotments.
- Seek cooperation of USFS to jointly designate U.S. Highway 395 a scenic byway.

### Rationale

There is tremendous potential to enhance recreation opportunities and dramatically increase visitor use in the Long Valley Management Area. The area contains



crucial habitats for mule deer, sage grouse, and other wildlife. The potential for geothermal development is also high.

This alternative provides yearlong protection in the mule deer migration corridor and within one-third mile of sage grouse leks. These constraints would make it more difficult to utilize the geothermal resource, on about ten percent of the management area. Unless there is a change in the world energy situation, development of geothermal resources on Bureau land appears unlikely in the near future.

This alternative would enhance recreation opportunities and reduce impacts of recreation, and other activities, on wildlife and sensitive species.

## Benton Management Area

### Alternative 1: No Action/Continuation of Present Management

#### Management Theme

- Provide for commodity production with minimal restrictions. Enhance wildlife habitat and livestock forage while protecting specific cultural values.

#### Decisions

- Dispose of 11,212 acres of Bureau land for agricultural use, residential expansion, and community services.
- Manage the area to conform to the following VRM standards:
  - VRM II - The foothills and alluvial fans of the White Mountains.
  - VRM IV - The area surrounding Chidago Canyon and the Blind Spring area.
  - VRM III - Remainder of the area.
- Maintain existing composition of the sagebrush/bitterbrush and pinyon-juniper vegetation complexes.
- Do not alter existing stream channels on Bureau land.
- Manage deer winter range to provide at least 70% of the bitterbrush in mature or younger age classes, and to provide enough annual growth to support 2,245 deer.

- Maintain the Fish Slough area as the Fish Slough ACEC to protect wetland habitat for Owens pupfish and other species of concern, to enhance recreation opportunities, and to protect cultural resources and scenic values.

— Manage according to the existing ACEC plan.

— Improve waterfowl habitat in the ACEC.

- Allow commercial and non-commercial fuelwood harvesting of dead (down or standing) trees. Fuelwood may be harvested between May 1 and November 15 of each year.

- Employ suppression techniques against all wildfires as per the fire management plan.

- Stabilize and restore portions of Silver and Marble Creeks to improve riparian and aquatic habitat.

— Restore streambank stability and channel morphology.

— Improve riparian vegetation condition.

#### Support Needs

- Coordinate vehicle use management in the Truman Meadows area with USFS.
- Monitor *Astragalus lentigehosis piscenensis* (Fish Slough milk vetch) habitat.
- The following specific actions will be done to improve aquatic and riparian habitat in the management area:
  - Prohibit livestock grazing in the riparian zones of Marble and Silver Creeks.
  - Thin vegetation on portions of Marble Creek.
  - Raise the water level in Silver Creek.
- Develop an HMP in cooperation with CDF&G and the USFS for the Casa Diablo deer herd.
- Develop AMPs on the Blind Spring, Hammil Valley, and Marble Creek allotments.



## **Benton MA - Alternative 2 - Custodial Management**

### **Management Theme**

- Manage for livestock grazing and mineral development. Satisfy the demand for community expansion.

### **Decisions**

- Dispose of 11,551 acres of Bureau land to provide for agricultural use, residential expansion, and community services.
- Provide agricultural leases in VRM III areas near private farms along U. S. Highway 6. Stipulate forage products are partially allocated to wildlife.
- Manage the area to conform to the following VRM standards:
  - VRM III - Fish Slough ACEC.
  - VRM IC - Remainder of the area.
- Maintain the Fish Slough area as the Fish Slough ACEC to protect wetland habitat for Owens pupfish and other species of concern, to enhance recreation opportunities, and to protect cultural resources and scenic values.
  - Manage according to the existing ACEC plan.
  - Improve waterfowl habitat in the ACEC.
- Allow commercial and non-commercial fuelwood harvesting of dead (down or standing) trees. Fuelwood may be harvested between May 1 and November 15 of each year.
- Employ suppression techniques against all wildfires as per the fire management plan.

### **Support Needs**

- Identify several pumice sale blocks, estimate tonnages, develop mine plans, and solicit bids as demand indicates.

## **Benton MA - Alternative 3: Natural Resource Enhancement**

### **Management Theme**

- Provide a variety of dispersed recreation opportuni-

### **Decisions**

- Enhance semi-primitive dispersed non-motorized recreation opportunities in the south Tableland area, and provide physical settings for activities including hiking, mountain biking, sightseeing, and resource interpretation. Manage the northern Tableland and Blind Spring Hill for semi-primitive motorized recreation as per High Desert OHV study.
  - Allow no new roads in the south Tableland except for those identified in the High Desert OHV Plan.
- Manage the area to conform to the following VRM standards:
  - VRM II - South Tableland and alluvial fans from Paiute Creek to the Nevada border.
  - VRM IV - Blind Spring Hill.
  - VRM III - Remainder of the area.
- Protect crucial sage grouse and mule deer habitats with the following restrictions:
  - Seasonal protection of sage grouse wintering areas from 12/1 to 3/1.
  - Seasonal protection of mule deer winter range from 11/1 to 4/30.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 20 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and to control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and to reduce erosion.
  - Meet DPC goals on 1,111 acres of pinyon-juniper areas to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.
  - Meet DPC goals on 5,859 acres of sagebrush-bitterbrush to provide cover and forage for mule deer. Manage the Volcanic Tableland allotment to meet DPC goals for sagebrush-bitterbrush.
- Stabilize and restore portions of Silver and Marble Creeks to improve riparian and aquatic habitat.
  - Restore stream bank stability and channel

- Improve riparian vegetation condition.
- Manage habitats for endangered and unique species with the following measures:
  - Yearlong protection of Owens pupfish, Owens tui chub, Owens speckled dace, Owens Valley vole, and Great Basin springsnail habitats.
  - Develop new habitat for Owens pupfish and Owens tui chub along Marble Creek, at the unnamed spring in Section 21 at Millner Creek and the unnamed spring in Section 23 at Paiute Creek, the Hill Ranch in N1/2NE1/4 of section 5 at Lone Tree Creek, and the "Devernols Ranch" in the S1/2SW1/4 of Section 20 at Willow Creek.
  - Acquire 80 acres to protect and enhance habitat for Owens speckled dace at Marble Creek.
  - Acquire 160 acres to protect habitat and reintroduce Owens speckled dace and Owens pupfish at Willow Creek and the spring source north of Jeffrey Canyon.
- Geothermal leasing and other activities affecting the aquifer are prohibited within 1 mile of thermal water sources essential to listed, candidate, and unique species.
- Maintain the Fish Slough area as an ACEC to protect wetland habitat for Owens pupfish and other species of concern, to enhance recreation opportunities, and to protect cultural resources and scenery.
  - Manage according to the ACEC plan.
  - Yearlong protection of the ACEC.
  - Prohibit livestock grazing in the Fish Slough allotment.
  - Acquire 2,462 acres of private land to protect and enhance habitat for Owens pupfish and Owens tui chub.
- Designate a scenic/historic byway along Fish Slough Road from Five Bridges Road to Benton Hot Springs.
- Allow commercial and non-commercial fuelwood harvesting where it will further wildlife habitat or DPC goals.
- Employ full suppression techniques against all wildfires. Prohibit blading by bulldozers or other

heavy equipment in the Fish Slough ACEC or on the alluvial fans of the White Mountains.

- Yearlong protection the south Tableland to protect semi-primitive recreation opportunities, and scenic and cultural values.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.

#### ***Support Needs***

- Develop an interpretive program highlighting the following:
  - Fish Slough ACEC
  - Pronghorn
  - Geologic values in the Volcanic Tablelands
  - Cultural values (Petroglyph Loop, Carson-COLORADO R.R., and other historic values).
- Develop an AMP for the Marble Creek allotment to improve mule deer winter range and meet the goals of the CDF&G Casa Diablo Deer Management Plan.
- Coordinate with CDF&G in the reintroduction of endangered and sensitive fish species.

#### **Benton MA - Alternative 4: Proposed Action**

##### ***Management Theme***

- Provide a variety of dispersed recreation opportunities. Enhance scenic and wildlife resources, while providing for disposals along U.S. Highway 6.

##### ***Decisions***

- Dispose of 200 acres adjacent to the Benton Reservation for reservation expansion.
- Dispose of 5,382 acres of Bureau land for agricultural use, residential expansion, and community services.
- Enhance semi-primitive dispersed non-motorized recreation opportunities in the south Tableland area, and provide physical settings for activities including hiking, mountain biking, sightseeing, and resource interpretation. Manage the northern Tableland and Blind Spring Hill for semi-primitive motorized recreation as per High Desert OHV study.

- Allow no new loads in the south Tableland except for those shown in the High Desert OHV Plan.
  - Manage the area to conform to the following VRM standards:
    - VRM II - South Tableland and alluvial fans from Palute Creek to the Nevada border.
    - VRM IV - Blind Springs Hill.
    - CRM III - Remainder of area.
  - Protect crucial sage grouse and mule deer habitats with the following restrictions:
    - Seasonal protection of sage grouse wintering areas from 12/1 to 3/1.
    - Seasonal protection of mule deer winter range from 11/1 to 4/30.
  - Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
    - Meet DPC goals on 20 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
    - Meet DPC goals on wet meadows to improve habitat for sage grouse, pronghorn and mule deer, and reduce erosion.
    - Meet DPC goals on 1,111 acres of pinyon-juniper to improve habitat for mule deer, pronghorn, black bear, and cavity nesting species.
    - Meet DPC goals on 5,859 acres of sagebrush-bitterbrush to provide cover and forage for mule deer. Manage the Volcanic Tableland allotment to meet the DPC goals for sagebrush-bitterbrush.
  - Stabilize and restore portions of Silver and Marble Creeks to improve riparian and aquatic habitat.
    - Restore stream bank stability and channel morphology.
    - Improve riparian vegetation condition.
  - Manage habitats for endangered and unique species with the following measures:
    - Yearlong protection of Owens pupfish, Owens tui chub, Owens speckled dace, Owens Valley vole, and Great Basin springsnail habitats.
    - Develop new habitat for Owens pupfish and Owens tui chub along Marble Creek, at the unnamed spring in Section 21 at Millner Creek and the unnamed spring in Section 23 at Palute Creek, the Hill Ranch in N1/2NE1/4 of section 5 at Lone Tree Creek, and the "Devemols Ranch" in the S1/2SW1/4 of Section 20 at Willow Creek.
    - Acquire 80 acres to protect and enhance habitat for Owens speckled dace.
    - Acquire 160 acres to protect habitat and reintroduce Owens speckled dace and Owens pupfish at Willow Creek and the spring source north of Jeffrey Canyon.
  - Geothermal leasing and other activities affecting the aquifer are prohibited within 1 mile of thermal water sources essential to listed, candidate, and unique species.
  - Maintain the Fish Slough area as an ACEC to protect wetland habitat for Owens pupfish and other species of concern, to enhance recreation opportunities, and to protect cultural resources and scenery.
    - Manage according to the ACEC plan.
    - Yearlong protection of the ACEC.
    - Prohibit livestock grazing in the Fish Slough allotment.
  - Allow commercial and non-commercial fuelwood harvesting where it furthers wildlife habitat or DPC goals.
  - Employ full suppression techniques against all wildfires. Prohibit blading by bulldozers or other heavy equipment in the Fish Slough ACEC or on the alluvial fans of the White Mountains.
  - Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Support Needs**
- Develop an interpretive program highlighting the following:
    - Fish Slough ACEC.
    - Pronghorn.

- Geologic values in the Volcanic Tableland.
- Cultural values (Petroglyph Loop, Carson-COLORADO R.R., and other historic values).

- Develop an AMP for the Marble Creek allotment to improve mule deer winter range and meet the goals of the CDF&G Casa Diablo Deer Management Plan.
- Coordinate with CDF&G in the reintroduction of endangered and sensitive fish species.

#### *Rationale*

This alternative will provide several thousand acres for community services, residential expansion, and agricultural use. It will also protect key wildlife habitat and provide a wide variety of dispersed recreation opportunities.

- Several measures will protect and expand important wildlife habitat:
- Seasonal protection for sage grouse and mule deer winter ranges.
- DPC goals for riparian, meadow, pinyon-juniper, and sagebrush/bitterbrush.
- Stabilization and restoration of Silver and Marble Creeks.

Acquisition and creation of habitat for Owens pupfish, Owens tui chub, Owens speckled dace, Owens Valley vole, and Great Basin springsnail.

Management will also protect scenery and provide semiprimitive nonmotorized recreation opportunities on the south Tableland, the Fish Slough ACEC, and the alluvial fans of the White Mountains.

Intensive uses (such as mineral material sales) will be allowed in other portions of the management area.

This alternative handles diverse demands in the Benton Management Area by setting aside some areas for protective management and providing other areas for intensive land use.

## **Owens Valley Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### *Management Theme*

- Maintain and enhance the scenic and wildlife habitat values of the area. Improve winter range habitat conditions to support viable populations of the Sherwin and Buttermilk mule deer herds. Allow some commodity uses with moderate restrictions. Protect and enhance the recreational values of the Alabama Hills. Maintain critical tule elk calving areas. Maintain livestock forage production.

#### *Decisions*

- Dispose of 2,738 acres of Bureau land for agricultural use, residential expansion, and community services.
- Protect the unique geological features and scenery in the Alabama Hills SRMA.
  - Limit camping in the Alabama Hills to designated campgrounds. Limit parking and picnicking to designated areas.
- Manage the area to conform to the following VRM standards:
  - VRM II - Alabama Hills, Red Mountain, west side Crater Mountain.
  - VRM III - Remainder of management area except for Poleta Canyon.
  - VRM IV - Poleta Canyon.
- Maintain existing composition of the sagebrush-bitterbrush and pinyon pine-juniper vegetation complexes.
- Do not alter the existing stream channels on Bureau land except as jointly agreed upon by BLM, CDF&G and LADWP for flood control purposes.
- Improve the aquatic resources in the management area.
- Maintain Rawson Creek in its natural condition.



- Maintain the natural conditions of the following stream beds except where mutually agreed to by BLM, CDF&G and LADWP for flood control:
  - North Fork Bairs Creek
  - George Creek
  - Tuttle Creek above campground
- Prohibit grazing on the Round Valley and Sherwin allotments until AMPs are developed.
- Manage deer winter range to provide at least 70% of the bitterbrush in mature or younger age classes, and to provide enough annual growth to support 5,400 deer at Round Valley, 4,000 deer at Goodale, and 1,000 deer in the Monache herd.
- Acquire 560 acres at Swall Meadows to protect deer habitat.
- Close the Horton Creek campground from November 15 to April 15 to reduce deer winter range disturbances.
- The Horton Creek, Goodale Creek, and Tuttle Creek campgrounds are proposed for withdrawal from locatable mineral exploration and development. The Horton Creek campground is closed to geothermal leasing.
- The Bureau lands in the Alabama Hills SRMA are proposed for withdrawal from locatable mineral exploration and development. The Alabama Hills are closed to geothermal leasing.
- Seasonal protection on tule elk calving areas during the calving season.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees. Allow harvesting of specific, identified live trees to meet management goals.
- Employ suppression techniques against wildfires as per the fire management plan. Prohibit blading by bulldozers or other heavy equipment in the Alabama Hills. Employ prescribed natural fire in blackbrush areas near Independence and Lone Pine.

#### **Support Needs**

- Remove three campsites to protect riparian values adjacent to Horton Creek.
- Develop and implement an activity plan for the Alabama Hills to protect geologic and scenic values and provide for compatible uses.

- Establish cooperative use agreements with owners of occupied property to reduce use impacts.
- Continue to implement the interagency Tule Elk HMP.
- Develop an HMP jointly with the USFS and CDF&G for the Sherwin, Buttermilk, and Goodale deer herds.
- Develop wildlife water facilities to enhance chukar habitat in the Crater Mountain area.
- Conduct validity examination of all mining claims in the Poverty Hills that conflict with critical resources or other uses on Bureau land.
- Develop AMP's for the Alabama Hills, Round Valley, and Sherwin allotments.
- Develop a cooperative flood control plan with LADWP, CDF&G and BLM to resolve flooding problems where appropriate.

#### **Owens Valley MA - Alternative 2 - Custodial Management**

- Conduct an intensive cultural resource inventory of the Crater Mountain lava flow.

#### **Management Theme**

- Manage for livestock grazing and mineral development with minimal restrictions to protect wildlife values.

#### **Decisions**

- Dispose of 3,152 acres for agricultural use, residential expansion, and community services.
- Manage the area to conform to the following VRM standards:
  - VRM II - Alabama Hills, Red Mountain, west side Crater Mountain.
  - VRM IV - Poleta Canyon and Fish Springs Hill.
  - VRM III - Remainder of area.
- Manage the Alabama Hills SRMA to protect the area's unique geological and scenic qualities.
- Maintain composition of sagebrush-bitterbrush and piñon pine-juniper complexes.



- Allow non-commercial fuelwood harvesting of dead (down or standing) trees. Allow harvesting of specific, identified live trees to meet management goals.
- Employ full suppression techniques against all wildfires. Prohibit blading by bulldozers or other heavy equipment in the Alabama Hills.
- Prohibit livestock grazing on the Round Valley and Sherwin allotments until AMPs are developed.

## **Owens Valley MA - Alternative 3: Natural Resource Enhancement**

### ***Management Theme***

- Manage for full spectrum of uses. Emphasize recreation and environmental education.

### ***Decisions***

- Coordinate mutual recreation interests with LADWP and Inyo County.
- Provide interpretation of natural resource and cultural features.
  - Acquire 1,165 acres to protect recreation and scenic resources.
- Manage the area to conform to the following VRM standards:
  - VRM II - IIs, Red Mountain, Crater Mountain.
  - VRM IV - Poleta Canyon.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 220 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse and mule deer, and to reduce erosion.
  - Meet DPC goals on 4,071 acres of sagebrush-bitterbrush to provide cover and forage for mule deer and tule elk.
- Acquire 1,106 acres at Hogback Creek to protect riparian vegetation.
- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedlings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Manage stream reaches in Horton, Goodale, and Tuttle Creek campgrounds to improve streambank stability and instream habitat.
  - Remove campsites from riparian zones.
  - Reinforce streambanks to prevent erosion.
- Stabilize and restore selected stream reaches to improve riparian and aquatic habitat and to preserve diverse wildlife/plant assemblages. Streams of concern are: Sawmill, Symmes, Taboose, Goodale, Independence, and Horton.
- Protect crucial mule deer and tule elk habitat with the following measures:
  - Yearlong protection of the Round Valley migration corridor.
  - Seasonal protection of the Round Valley, Monache, and Goodale deer winter ranges from 11/1 to 4/30.
  - Acquire 1,820 acres in Round Valley to protect mule deer winter range and migration corridor.
  - Yearlong protection of tule elk calving areas.
- Maintain or enhance deer winter ranges to meet objectives of CDF&G herd plans. Manage deer winter range to provide at least 70% of the bitterbrush in mature or younger age classes, and to provide enough annual growth to support 5,400 deer at Round Valley, 4,000 deer at Goodale, and 1,000 deer in the Monache herd.
- Maintain or enhance habitat for the following sensitive species: Pacific bigeared bat, Mt. Lyell salamander, Owens Valley vole, ferruginous hawk, Owens speckled dace, and Great Basin springsnail.
  - Acquire 240 acres at Lubkin Creek to protect Owens Valley vole, springsnail habitat, and riparian vegetation.
- Manage habitat for Owens pupfish, Owens tui chub, and bald eagle with the following measures:

— Reintroduce these species to all suitable sites.

— Protect current habitat from degradation.

— Acquire 240 acres at Graham Ranch Spring, Wilkerson Spring and Warren Bench Spring to protect springsnail habitat and reintroduce Owens pupfish.

- Prohibit grazing in the Sherwin, Round Valley, Keough, and Black Rock allotments to maintain vegetative conditions on the Round Valley and Goodale mule deer winter range.

- Designate the Alabama Hills as an ACEC to protect scenic values, enhance recreation, and provide interpretive opportunities.

— Manage the Alabama Hills SRMA Area to provide semi-primitive non-motorized and roaded natural opportunities such as photography, mountain biking, hiking, four-wheel drive touring, and horseback riding. Provide camping opportunities only in designated areas.

— Yearlong protection of Alabama Hills.

— The Alabama Hills are proposed for withdrawal from locatable mineral exploration and development.

— Designate a scenic byway along Movie Flat Road.

- Designate Crater Mountain as an ACEC to protect scenic values, enhance recreation activities, and provide geologic interpretive opportunities.

— Acquire 240 acres to protect recreation and scenic resources.

— The ACEC is closed to geothermal exploration and development.

- Achieve and/or maintain a minimum of 60% ground cover on upland rangelands except for the following areas: low sagebrush, big sagebrush, crested wheatgrass seedings where wheatgrass is the dominant plant by composition, pinyon-juniper and south facing sagebrush type.
- Designate scenic byways along Manzanar Road, U.S. Highway 395 (from Mono County north), and State Highway 168 (from USFS to Bureau land east of Big Pine).
- Prohibit fuelwood harvesting.

- Employ full suppression techniques against all wildfires. Prohibit blading by bulldozers or other heavy equipment in the Alabama Hills and mule deer winter ranges, except when human life or private property is threatened.

### **Support Needs**

- Develop an environmental education center in Bishop.
- Develop an interpretive plan to address:
  - Wildlife.
  - Historic (Carson-Colorado Railroad).
  - Geology (lava flows, Crater Mountain, Alabama Hills).
  - Lower Rock Creek.
- Develop a cooperative agreement with the LADWP to maintain/improve deer winter ranges.
- Develop ponds, new channels, or related habitats for listed species.
- Develop an AMP for the Alabama Hills allotment.
- Develop activity plans for the Crater Mountain and Alabama Hills ACECs.
- Coordinate with CDF&G the introduction of threatened and endangered species.
- Seek cooperation of USFS and LADWP to jointly designate State Highway 168, Manzanar Road and U.S. Highway 395 as scenic byways.

### **Owens Valley MA - Alternative 4: Proposed Action**

#### **Management Theme**

- Manage for full spectrum of uses. Emphasize recreation and environmental education while providing for land disposals.

#### **Decisions**

- Dispose of 200 acres west of the Independence Reservation for urban expansion.
- Dispose of 2,237 acres of Bureau land for agricultural use, residential expansion, and community services.
- Coordinate mutual recreation interests with LADWP and Inyo County.

- Provide interpretation for natural and cultural resources.
- Enhance semi-primitive nonmotorized and roaded natural opportunities such as photography, mountain biking, hiking, four-wheel drive touring, and horseback riding in the Alabama Hills SRMA. Provide camping opportunities only in designated areas.
  - Yearlong protection of the Alabama Hills.
  - Acquire 634 acres to protect recreation and scenic resources.
- Manage the area to conform to the following VRM standards:
  - VRM II - Alabama Hills, Red Mountain, Crater Mountain.
  - VRM IV - Poleta Canyon.
  - VRM III - Remainder of the area.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 165 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on wet meadows to improve habitat for sage grouse and mule deer, and reduce erosion.
  - Meet DPC goals on 4,071 acres of sagebrush-bitterbrush to provide cover and forage for mule deer and tule elk.
- Acquire 1,106 acres at Hogback Creek to protect riparian vegetation.
- Manage stream reaches in Horton, Goodale, and Tuttle Creek campgrounds to improve streambank stability and instream habitat.
  - Remove campsites from riparian zones.
  - Reinforce streambanks to prevent erosion.
- Stabilize and restore selected stream reaches to improve riparian and aquatic habitat and to preserve diverse wildlife/plant assemblages. Streams of concern are: Sawmill, Symmes, Taboose, Goodale, Independence, and Horton.
- Protect crucial mule deer and tule elk habitat with the following measures:
  - Yearlong protection of the Round Valley migration corridor.
  - Seasonal protection of the Round Valley, Monache, and Goodale deer winter ranges from 11/1 to 4/30.
  - Acquire 1,820 acres in Round Valley to protect mule deer winter range and the migration corridor.
  - Yearlong protection of tule elk calving areas.
- Maintain or enhance deer winter ranges to meet objectives of CDF&G herd plans. Manage deer winter range to provide at least 70% of the bitterbrush in mature or younger age classes, and to provide enough annual growth to support 5,400 deer at Round Valley, 4,000 deer at Goodale, and 1,000 deer in the Monache herd.
- Maintain or enhance habitat for the following sensitive species: Pacific bigeared bat, Mt. Lyell salamander, Owens Valley vole, ferruginous hawk, Owens speckled dace, and Great Basin springsnail.
  - Acquire 240 acres at Lubkin Creek to protect Owens Valley vole, springsnail habitat, and riparian vegetation.
- Manage habitat for Owens pupfish, Owens tui chub, and bald eagle with the following measures:
  - Reintroduce these species to all suitable sites.
  - Protect current habitat from degradation.
  - Acquire 120 acres at Graham Ranch Spring to protect springsnail habitat and reintroduce the Owens pupfish.
- Prohibit grazing in the Sherwin, Round Valley, Keough, and Black Rock allotments to maintain vegetative condition in the Round Valley and Goodale mule deer winter ranges.
- Designate Crater Mountain as an ACEC to protect scenic values, enhance recreation activities and to provide geologic interpretive opportunities.
  - Acquire 240 acres to protect recreation and scenic resources.

- Designate scenic byways along Manzanar Road, U.S. Highway 395 (from Mono County line north), Movie Flat Road, and State Highway 168 (from USFS to Bureau lands east of Big Pine).
- Acquire the Manzanar historic site to protect and interpret historic values.
- Prohibit fuelwood harvesting.
- Employ full suppression techniques against all wildfires. Prohibit blading by bulldozers or other heavy equipment in the Alabama Hills and mule deer winter ranges, except when human life or private property is threatened.

### **Support Needs**

- Develop an environmental education center in Bishop.
- Develop a visitor services program in the Alabama Hills to reduce vandalism and trash.
- Develop an interpretive program to address:
  - Wildlife.
  - Historic (Carson-Colorado Railroad).
  - Geology (lava flows, Crater Mountain, Alabama Hills).
  - Lower Rock Creek.
- Develop a cooperative agreement with the LADWP to maintain/improve deer winter ranges.
- Develop species recovery plans in cooperation with USF&WS.
- Develop ponds, new channels, or related habitats for listed species.
- Develop an AMP for the Alabama Hills allotment.
- Develop an activity plan for the Crater Mountain ACEC.
- Coordinate with CDF&G the introduction of threatened and endangered species.
- Seek cooperation from USFS and LADWP to jointly designate U.S. Highway 395, State Highway 168 and the Manzanar Road scenic byways.
- Develop an activity plan for stabilization, restoration, and interpretation of Manzanar.

### **Rationale**

- This alternative will provide over 2,000 acres of Bureau land for community services, agricultural use and residential expansion. Disposal of this land will help the local economy, and it will provide an exchange base to acquire lands in the resource area.
- Recreation facilities and the environmental education center will also help the local economy by attracting visitors to the area.
- Several damaged streams will be restored and stabilized. Habitat will be protected and expanded for tule elk, mule deer, Owens tui chub, Owens pupfish, and other wildlife.
- By protecting key wildlife areas and by providing other lands for development, this alternative will meet the conflicting demands placed on Bureau lands.

## **South Inyo Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### **Management Theme**

- Manage for a variety of demands varying from ecological preservation in the proposed wilderness to commodity production with minimal restrictions in other portions of the management area.

#### **Decisions**

- Acquire 7 acres of private land at Swansea to protect historic structures.
- Dispose of 2,351 acres of Bureau land for agricultural use, residential expansion, and community services.
- Manage the suitable portion of the Southern Inyo WSA as wilderness.
  - Yearlong protection of the proposed wilderness.
- Manage the area to conform to the following VRM standards:
  - VRM I - Proposed wilderness area.
  - VRM III - Remainder of the area.



- Maintain composition and cover of sagebrush/bitterbrush and pinyon-juniper plant communities.
- Yearlong protection of the bristlecone/limber pine vegetative complex.
- Maintain water quality and spring flows.
- Prohibit livestock grazing.
- Protect the Salt Tram with no stabilization or interpretation.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.
- Suppress wildfires as per the fire management plan.

#### **Support Needs**

- Acquire access and apply interpretive and protective measures to Pat Keyes Trail.
- Develop an activity plan for the proposed Southern Inyo Wilderness Area immediately after designation.
- Evaluate the bristlecone/limber pine areas for possible ACEC designation.
- Develop an HMP for bighorn sheep, mule deer, and Inyo salamander.

### **South Inyo MA - Alternative 2 - Custodial Management**

#### **Management Theme**

- Manage the proposed wilderness for ecological preservation, and emphasize commodity production in the remainder of the area.

#### **Decisions**

- Dispose of 2,351 acres of Bureau land for agricultural use, residential expansion, and community services.
- Manage the suitable portion of the Southern Inyo Wilderness Area as wilderness.

— Yearlong protection of the proposed wilderness.

- Manage the area to conform to the following VRM standards:

— VRM I - Proposed wilderness area.

— VRM III - Remainder of the area.

- Maintain composition and cover of sagebrush/bitterbrush and pinyon-juniper communities.
- Yearlong protection of the bristlecone/limber pine vegetative complex.
- Prohibit livestock grazing.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.
- Suppress wildfires as per the fire management plan.

#### **Support Needs**

- Develop an activity plan for the proposed Southern Inyo Wilderness Area immediately after designation.

### **South Inyo MA - Alternative 3: Natural Resource Enhancement**

#### **Management Theme**

- Manage for wilderness values, recreation opportunities, wildlife habitat, and visual and cultural resources.

#### **Decisions**

- Acquire 7 acres of private land at Swansea to protect historic structures.
  - Manage the suitable portion of the Southern Inyo Wilderness Area as wilderness.
- Yearlong protection of the proposed wilderness.
- Manage the area to conform to the following VRM standards:

— VRM II - Proposed Wilderness area.

— VRM II - Nonsuitable WSAs.

— VRM III - Remainder of the area.

- Manage for primitive recreation opportunities in the proposed wilderness. Provide semi-primitive motorized to semi-primitive nonmotorized opportunities in the remainder of the area.
- Designate the bristlecone pine forest as the Keynot Peak ACEC to protect its scientific and aesthetic values.



- Yearlong protection of the ACEC.
- Removal of wood will be allowed only for research or museum purposes.
- Prohibit campfires.
- Manage the ACEC to meet wilderness guidelines. (It is within the proposed Southern Inyo Wilderness Area.)
- Seasonal protection of prairie falcon nesting habitat in Long John Canyon from 4/1 - 6/30.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 3 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and to control erosion.
  - Meet DPC goals on 1,200 acres of bristlecone pine to preserve bristlecone forests.
  - Meet DPC goals on 1,053 acres of dune areas to maintain habitat for the Owens dune weevil.
  - Meet DPC goals on 5,120 acres of pinyon-juniper areas to improve habitat for mule deer, black bear, and cavity nesting species.
  - Meet DPC goal on 293 acres of sagebrush-bitterbrush to provide cover and forage for mule deer.
- Maintain and improve existing vegetative conditions for mule deer and bighorn sheep.
- Maintain habitat of Great Basin springsnail.
- Maintain habitat to reintroduce bighorn sheep in the Inyo Mountains between Mt. Inyo and the USFS boundary.
- Enhance habitat for mule deer, California quail and mountain quail by developing water sources in the Inyo Mountains.
- A 1/8 mile wide corridor along the Pat Keyes Trail is proposed for withdrawal from locatable mineral exploration and development.
- Nonsuitable wilderness study areas in the Inyo Foothills are proposed for withdrawal from locatable mineral exploration and development to protect visual resources and primitive recreation opportunities.
- Prohibit geothermal exploration and development when it conflicts with habitat, for listed candidate or other species of concern.
- Prohibit livestock grazing.
- Designate Owenyo Road a scenic byway.
- Allow commercial and non-commercial fuelwood harvesting where it furthers wildlife habitat or DPC goals.
- Employ modified suppression against wildfires to minimize surface disturbance. Prohibit blading by bulldozers and other heavy equipment except when human life or private property is threatened.

#### ***Support Needs***

- Acquire easements for hiking access (4 trails).
  - Long John Canyon
  - Pat Keyes Trail
  - Union Wash
  - Forgotten Pass
- Provide interpretive facilities at the Pat Keyes trailhead.
- Develop an activity plan for the proposed Southern Inyo Wilderness Area immediately after designation.
- Develop an HMP for the management area.
- Coordinate with CDF&G the reintroduction of bighorn sheep on the west slope of the Inyo Mountains.
- Protect, stabilize, and interpret the Salt Tram.

#### **South Inyo MA - Alternative 4: Proposed Action**

##### ***Management Theme***

- Manage for wilderness values, recreation opportunities, wildlife habitat, and visual and cultural resources.

##### ***Decisions***

- Acquire 7 acres of private land at Swansea to protect historic structures.
- Dispose of 82 acres of Bureau land for agricultural use.

- Manage the suitable portion of the Southern Inyo Wilderness Area as wilderness.
  - Yearlong protection of proposed wilderness.
- Manage the area to conform to the following VRM standards:
  - VRM I - Proposed wilderness area.
  - VRM II - Unsuitable WSAs.
  - VRM III - Remainder of the area.
- Manage for primitive recreation opportunities in the proposed wilderness. Provide semi-primitive motorized to semi-primitive nonmotorized opportunities in the remainder of the area.
- Designate the bristlecone pine forest as the Keynot Peak ACEC to protect its scientific and aesthetic value.
  - Yearlong protection of the ACEC.
  - Removal of wood will be allowed only for research or museum purposes.
  - Prohibit campfires.
  - Manage the ACEC to meet wilderness guidelines. (It is within the proposed Southern Inyo Wilderness Area.)
- Seasonal protection of prairie falcon nesting habitat in Long John Canyon from 4/1 - 6/30.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 3 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goals on 1,200 acres of bristlecone areas to preserve bristlecone forests.
  - Meet DPC goals on 1,053 acres of dune areas to maintain habitat for the Owens dune weevil.
  - Meet DPC goals on 5,120 acres of pinyon-juniper areas to improve habitat for mule deer, black bear, and cavity nesting species.
  - Meet DPC goals on 219 acres of sagebrush-bitterbrush to provide cover and forage for mule deer.
- Maintain and improve existing vegetative conditions for mule deer and bighorn sheep.
- Maintain habitat of Great Basin springsnail.
- Maintain habitat to reintroduce bighorn sheep in the Inyo Mountains between Mt. Inyo and the USFS boundary.
- Enhance habitat for mule deer, California quail and mountain quail by developing water sources in the Inyo Mountains.
- A 1/8 mile corridor along the Pat Keyes trail is proposed for withdrawal from locatable mineral exploration and development.
- Prohibit geothermal exploration and development when it conflicts with habitat for listed, candidate, or other species of management concern.
- Prohibit livestock grazing.
- Designate Owenyo Road a scenic byway.
- Allow commercial and non-commercial fuelwood harvesting where it furthers wildlife habitat or DPC goals.
- Employ modified suppression against wildfires to minimize surface disturbance. Prohibit blading by bulldozers and other heavy equipment except when human life or private property is threatened.

#### **Support Needs**

- Acquire easements for hiking access (4 trails).
  - Long John Canyon
  - Pat Keyes Trail
  - Union Wash
  - Forgotten Pass
- Provide interpretive facilities at Pat Keyes trailhead.
- Develop an activity plan for the proposed Southern Inyo Wilderness Area immediately after designation.
- Develop an HMP for the management area.
- Coordinate with CDF&G the reintroduction of bighorn sheep in the Inyo Mountains.
- Protect, stabilize and interpret the Salt Tram.

### ***Rationale***

Some of the management in this area is the same under any alternative:

- The Southern Inyo Wilderness Area has been recommended as suitable for Wilderness designation in a decision separate from the RMP process.
- The decision not to allow livestock grazing is carried through all the alternatives because there is not enough forage in this area for grazing to be practical.

A locatable mineral withdrawal was considered in Alternative 3 to protect visual resources and primitive recreation opportunities in the foothills of the Inyo Mountains. This withdrawal is not part of the proposed action. A small amount of mineral development is anticipated, but this will not have severe impacts on other resources. Mineral development would provide some benefit to the local economy. A 1/8 mile corridor is withdrawn along the Pat Keyes trail to protect important recreation opportunities.

Recreation improvements will help to meet increasing demands for a wide variety of recreation opportunities on Bureau land.

Habitat for important species such as mule deer, bighorn sheep, quail, and the Great Basin springsnail will be maintained and enhanced.

Over 2,000 acres of Bureau land were considered for disposal for agricultural use under other alternatives. Most of these disposals are not included in the proposed action because increased well pumping for agricultural use in this area could harm habitat for threatened species around Owens Lake.

## **Owens Lake Management Area**

### **Alternative 1: No Action/Continuation of Present Management**

#### ***Management Theme***

- Manage for commodity production with some restrictions to protect wildlife habitat.

#### ***Decisions***

- Dispose of 5,774 acres of Bureau land for agricultural use, residential expansion, and community services.

- Manage the area to conform to the following VRM standards:

— VRM III - East of Owens Lake.

— VRM IV - West of Owens Lake.

- Maintain habitat for mule deer and tule elk.
- Seasonal protection in tule elk calving areas from 4/15-5/31.
- Expand the Ash Creek allotment to include unallotted areas east of the aqueduct when livestock management facilities are in place. Permittee is responsible for providing these facilities.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.
- Suppress wildfires as per the fire management plan.
- Manage Ash Creek as a riparian comparison area.

#### ***Support Needs***

- Coordinate with USF&WS and CDF&G to enhance critical habitat for listed species.
- Develop an AMP for the Ash Creek allotment.
- Maintain the livestock enclosure on Ash Creek.

### **Owens Lake MA - Alternative 2 - Custodial Management**

#### ***Management Theme***

- Manage for commodity production.

#### ***Decisions***

- Dispose of 5,774 acres of Bureau land for agricultural use, residential expansion, and community services.
- Manage the areas to conform to the following VRM standards:
  - VRM III - East of Owens Lake.
  - VRM IV - West of Owens Lake.
- Allow non-commercial fuelwood harvesting of dead (down or standing) trees.

- Suppress wildfires as per the fire management plan.
- Expand the Ash Creek allotment to include unallotted areas east of the aqueduct when livestock management facilities are in place. Permittee is responsible for providing these facilities.

### **Owens Lake MA - Alternative 3: Natural Resource Enhancement**

#### ***Management Theme***

- Manage to protect and enhance wildlife habitat.

#### ***Decisions***

- Manage the area to conform to the following VRM standards:
  - VRM III - East of Owens Lake.
  - VRM IV - West of Owens Lake.
- Yearlong protection of tule elk calving areas.
- Manage Ash Creek as a riparian comparison area.
- Maintain and improve habitat for mule deer and tule elk.
- Improve trout habitat on Braley Creek.
- Protect and enhance habitat for the western snowy plover, dune weevil, Owens tui chub, and Owens pupfish.
  - Acquire 1,718 acres for dune weevil habitat along the edge of Owens Lake.
  - Acquire 424 acres for western snowy plover habitat south of Owens Lake.
  - Acquire 610 acres for Owens tui chub habitat at the Cabin Bar Ranch.
  - Establish Section 22 spring and Braley Creek as refugia for Owens pupfish and Owens tui chub.
- Braley Creek and Section 22 springs are proposed for withdrawal from locatable mineral exploration and development. Both are closed to geothermal leasing.
- Tule elk calving areas are proposed for withdrawal from locatable mineral exploration and development.

- Prohibit geothermal exploration and development when it conflicts with habitat of listed, candidate, or other species of concern.

- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:

— Meet DPC goals on 7 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.

— Meet DPC goals on wet meadows to improve habitat for sage grouse, tule elk, and mule deer, and to reduce erosion.

— Meet DPC goals on 3,214 acres of dunes to maintain habitat for the Owens dune weevil.

- Incorporate dust abatement measures in all discretionary actions.
- Prohibit fuelwood harvesting.
- Employ modified suppression against wildfires to minimize surface disturbance. Prohibit blading by bulldozers and other heavy equipment except when human life or private property is threatened.

#### ***Support Needs***

- Provide financial support and direction to the InterAgency Visitor Center.
- Expand the InterAgency Visitor Center to include a repository for collections and interpretive displays.
- Develop cooperative management agreements to enhance habitat of listed species on private land.
- Coordinate with LADWP to provide trout habitat in Cottonwood Creek.
- Fence Cartago, Cottonwood and Braley Creeks to exclude livestock. Provide offstream water development for livestock.
- Maintain the livestock enclosure on Ash Creek.

### **Owens Lake MA - Alternative 4: Proposed Action**

#### ***Management Theme***

- Manage to protect and enhance wildlife habitat.



## **Decisions**

- Manage the area to conform to the following VRM standards:
  - VRM III - East of Owens Lake.
  - VRM IV - West of Owens Lake.
- Yearlong protection of tule elk calving areas.
- Manage Ash Creek as a riparian comparison area.
- Maintain and improve habitat for mule deer and tule elk.
- Improve trout habitat on Braley Creek.
- Protect and enhance habitat for the western snowy plover, dune weevil, Owens tui chub, and Owens pupfish.
  - Acquire 160 acres for dune weevil habitat near Swansea.
  - Acquire 424 acres for western snowy plover habitat south of Owens Lake.
  - Establish Section 22 spring and Braley Creek as refugia for Owens pupfish and Owens tui chub.
- Braley Creek and Section 22 springs are proposed for withdrawal from locatable mineral exploration and development. Both are closed to geothermal leasing.
- Prohibit geothermal exploration and development when it conflicts with habitat for listed, candidate, or other species of concern.
- Enhance wildlife habitat and watershed conditions with the following DPC prescriptions:
  - Meet DPC goals on 7 acres of riparian areas to increase habitat diversity, provide high quality habitat for fish, and control erosion.
  - Meet DPC goal on wet meadows to improve habitat for sage grouse, tule elk, and mule deer, and to reduce erosion.
  - Meet DOC goals on 3,214 acres of dunes to maintain habitat for the Owens dune weevil.
- Incorporate dust abatement measures in all discretionary actions.

- Prohibit fuelwood harvesting.
- Employ modified suppression against wildfires to minimize surface disturbance. Prohibit blading by bulldozers and other heavy equipment except when human life or private property is threatened.

## **Support Needs**

- Provide financial support and direction to the InterAgency Visitor Center.
- Expand the InterAgency Visitor Center to include a repository for collections and interpretive displays.
- Develop cooperative management agreements to enhance habitat of listed species on private land.
- Coordinate with LADWP to provide trout habitat in Cottonwood Creek.
- Fence Cartago, Cottonwood and Braley Creeks to exclude livestock. Provide offstream water development for livestock.
- Maintain the livestock enclosure on Ash Creek.

## **Rationale**

- Much of the periphery of Owens Dry Lake provides habitat for threatened species and other important wildlife. BLM acquisition is proposed for many of these locations so that habitat can be protected and enhanced.
- Over 5,000 acres of Bureau land was considered for disposal for agricultural use under other alternatives. These disposals are not included in the proposed action because increased water pumping for agricultural use in this area could harm habitat for threatened species and soil disturbance from agricultural use could increase dust problems.
- New transmission lines or other intensive land uses will not harm the scenery much on the west side of the Owens Lake Management Area because there are already three major transmission lines along this route.

## **East-West Transmission Line Corridor Alternatives**

These are alternatives for bringing power from Nevada to Los Angeles via the Owens Valley. The locations of



the three corridors are shown on Figure 3-19. Additional information about the corridors is shown on Figures 3-20 through 3-22.

Options for designating existing transmission lines as corridors within the Owens Valley and other parts of the Bishop Resource Area are described in the area-wide alternatives. Existing transmission lines are shown on the Lands and Minerals maps for Alternatives 1 and 2 in the map volume.

The alternatives and the impact analysis in Chapter 4 address only transmission lines. Any designation will apply only to transmission line corridors.

#### ***No Action, No East-West Corridor Alternative***

Under this alternative no east-west corridor would be designated. No routes for transmission lines into the Owens Valley would be established.

#### ***Pizona Corridor Alternative***

Under this alternative the Pizona Corridor would be designated as a transmission line corridor.

#### ***Queen Valley Corridor Alternative***

Under this alternative the Queen Valley Corridor would be designated a transmission line corridor.

#### ***Soldier Canyon Corridor Alternative***

Under this alternative the Soldier Canyon Corridor would be designated a transmission line corridor.

#### ***Rationale for the Preferred Alternative***

The preferred alternative is to designate Soldier Canyon (Figure 3-19) a transmission line corridor. The benefits of providing additional stability to the regional electrical supply system outweigh the anticipated impact of transmission lines through the Soldier Canyon Alternative area. It is preferred over the Pizona and Queen Valley alternatives because it would also require about 60 fewer miles of transmission lines along the Intertie and visual impacts and impacts to sensitive plants are acceptable. There is no wild horse habitat at the Soldier Canyon area and impacts to key wildlife species and cultural resources would be less. Although impacts to semi-primitive recreation in the area would be severe, the current level of use is low.

## **Conditions Applying to All Corridor Alternatives**

An EIS will be required for any proposed transmission line. The first applicant for a project that would bring power into the Owens Valley will be responsible for financing studies (part of the environmental analysis) to determine the number of additional transmission lines the north-south and the east-west corridors can support and what mitigation will be required.

Any transmission line within this corridors would be subject to the following mitigation:

1. The environmental analysis for the EIS would include surveys for cultural resources and sensitive plants and a visual analysis of the routes to develop appropriate mitigation for resource protection.
2. All development must be in compliance with the Forest-wide Standards and Guidelines of the Inyo National Forest Land and Resource Management Plan (Plan, pp. 74-105).
3. All development must be in compliance with Standard Operating Procedures, Area-wide and Management Area Direction of the Bishop Resource Management Plan.
4. Prescription Area and Management Area direction must be adhered to (Plan, pp. 117-118; pp. 147-148; pp. 149-150; pp. 175-178; pp. 208-212).
5. Road construction will not be permitted in Prescription Area #17 or those areas where road construction would have an unacceptable impact on sensitive resources such as mule deer or cultural resources.
6. Non-specular conductors and dull-toned towers will be required.
7. The Forest landscape architect will participate in developing alternatives for the design and location of transmission lines. All feasible means of reducing visual impacts will be used, particularly at highway crossing.
8. Tower and line construction will adhere to BLM standards and guidelines for prevention of raptor electrocution.
9. Construction would occur at a time and in a manner as prescribed by the Bureau to prevent displacement of elk, pronghorn and deer from crucial habitats.

10. Limit right-of-way clearing to the minimum needed to safely construct the line. Leave all vegetation under the lines that do not constitute a direct hazard.
11. The right-of-way will be maintained in conformance with the Power Line Fire Prevention Field Guide developed by the U.S. Forest Service, the Bureau of Land Management, and the California Department of Forestry.
12. Do not allow road construction on steep hillsides and limit road widths to those necessary for maintenance after the lines are constructed.
13. Limit clearing needed for construction equipment and tower pads to the least amount possible. Restore and revegetate all disturbed areas and cuts and fills.
14. Use structures that are suitable for most sites without requiring extensive site modifications, especially grading.
15. Colors for utility structures must be chosen after thorough analysis of site conditions. Colors may have to vary depending on site conditions. As a rule of thumb, structures that blend with their surroundings should be painted somewhat darker than appearance of the background.
16. Do an analysis of all other support facilities needed as part of the design of the main system and limit their land disturbing impact.
17. Determine the limits (widths) of the corridor throughout the route and do not go outside of these limits. If the limiting width in portions of the corridor would allow no more than three lines then the total corridor is limited to three lines.

## **Comparative Summary of the Impacts of the Alternatives**

See Table 2-2, on following pages.

**Table 2-2. Impacts of Alternatives by Management Area**

	Alternative 1	Alternative 2
<b>COLEVILLE Recreation</b>	Some slight improvements to recreation opportunities and visual resources expected from 960 acre acquisition along Highway 395, habitat and riparian improvements, trout reintroduction, environmental interpretation, and route designations. Some localized adverse impacts from mining would occur locally at Golden Gate Mine area. Additionally, some loss of dispersed camping and OHV access expected from yearlong protection for wildlife, etc.	Some greater visual contrasts expected than Alternative 1 due to a reclassification of this area to a VRM III class. Some slight declines to mule deer hunting and fishing opportunities. Some localized adverse impacts from mining would occur locally at Golden Gate Mine area. Fewer vehicle use restrictions expected due to lack of yearlong protection for wildlife, less restrictive VRM classes, etc.
<b>Wildlife</b>	Winter mule deer population would decrease by 19% over 10 years due to Bureau land disposal. Removing livestock from allotment 6066 would improve vegetative quality on 10,000 acres of sensitive species habitat. Full fire suppression would degrade watershed integrity and cause loss of vegetation on 3,900 acres of most biologically diverse site in the management area. Current coordination of riparian/ aquatic environment maintained. Trout habitat productivity at 65% of potential. Lahontan cutthroat trout (FT, federal threatened) habitat available on 5 stream miles. Plant diversity and shrub biomass significantly improved on 7,900 acres of pinyon-juniper type.	Winter mule deer population would decrease by 19% over 10 years due to Bureau land disposal. Commercial timber cutting, particularly old growth would remove habitat for majority of summer resident deer - loss of fawning areas. Commercial removal of old growth timber would extirpate pine marten, goshawk and blue grouse populations. Removing livestock grazing from allotment 6066 would improve vegetative quality on 10,000 acres of sensitive species habitat. Full fire suppression would degrade watershed integrity and cause loss of vegetation on 3,900 acres of most biologically diverse site in area. Consumptive uses would cause measurable decline in condition on 95% of areas riparian/aquatic habitat. Trout habitat productivity at 50% of potential. No Lahontan cutthroat trout (FT) habitat available. Plant diversity and shrub biomass improved on 7,900 acres of pinyon-juniper type. Significant long term impact to old growth stands, $\geq$ 50% of old growth biomass removed through timber sale.
<b>Minerals</b>	80% of the locateable minerals cannot be developed in conformance with VRM I and II requirements.	15% of the locateable and saleable minerals will be effectively withdrawn from development.

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### Alternative 3

Moderate to high benefits expected from 1,751 acre acquisition along Highway 395, route designations, increased emphasis on visual resource management, wildlife and watershed improvements, locating material sites at one location and scenic byway designations. Improvements expected in hunting, fishing, mountain biking, sightseeing, lakeside recreation, and environmental interpretation opportunities. Some localized adverse impacts from mining would occur at Golden Gate Mine area. A greater loss of dispersed camping and OHV access expected than Alternative 1 due to greater wildlife habitat protection, etc.

Winter mule deer population increase of  $\leq 15\%$  through Bureau acquisitions of 2,700 acres and desired plant community management on an additional 8,700 acres. Sensitive species populations would be maintained (habitat generally in excellent condition) with high level of biological diversity in the area maintained. Riparian/aquatic habitat condition would be either maintained or significantly improved on the majority of acres. Habitat quality decreased on 10% of riparian acres through trail construction along Slinkard Creek Tributary 1. Trout habitat productivity at 95% of potential. Lahontan cutthroat trout (FT) habitat available on 5 stream miles. Desired plant community management would measurably improve vegetative condition on 8,700 acres.

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### Alternative 4

Overall, same impacts as Alternative 3 except benefits are less due to a 45% reduction in acquisitions and 5% loss in deer hunting opportunities.

Winter mule deer population increase of  $\leq 10\%$  through Bureau acquisitions and desired plant community management on 8,700 acres. Sensitive species populations and the high level of biological diversity maintained. Riparian/aquatic habitat condition either maintained or significantly improved on the majority of acres. Habitat quality decreased on 10% of riparian acres through trail construction along Slinkard Creek Tributary 1. Trout habitat productivity at 95% of potential. Lahontan cutthroat trout (FT) available on 5 stream miles. Loss of up to 18% (9 acres) of riparian vegetation possible through diversion of up to 5% of stream/spring flow.

60% of the locateable and 99% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Minerals (cont.)</b>	<p>30% of the locateable and 80% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.</p> <p>70% of the area designated for yearlong and season protection is in an area of moderate geothermal potential.</p>	<p>90% of the 407 acre disposal is within an area of moderate geothermal potential.</p>
<b>BRIDGEPORT Recreation</b>	<p>Recreation opportunities and visual resources would remain stable with some localized degradation expected from development on a 506 acre disposal along Highways 182 and 395, and mineral exploration /development on Dog and Virginia Creeks. Local improvement of visual resources may occur from sage grouse habitat protection/improvement and route designations. Some loss of dispersed camping and OHV access expected as well as mule deer hunting losses.</p>	<p>Some greater visual contrasts expected than alternative 1 due to a reclassification of the area to a VRM III class. Local impacts would occur on disposal areas, Travertine Hot Spring ACEC, and on Dog and Virginia Creeks where mineral development is anticipated. Fewer vehicle use restrictions expected due to a lack of seasonal wildlife protection, less restrictive VRM classes, etc.</p>
<b>Wildlife</b>	<p>Sage grouse population reduced, 35% over 10 years due to livestock grazing - locateable mineral development impacts. Resident mule deer population reduced <math>\geq</math> 20% due to Bureau land disposal, locateable mineral development and livestock grazing. Four sensitive species habitats remain in degraded condition with loss of 1 or more populations of Travertine diving beetle (C2, federal category 2). Current riparian/aquatic habitat conditions would be either maintained or experience a slight decrease in acres or quality due to grazing, mineral development and recreational use. Trout habitat productivity at 50% of potential. Heavy use by livestock would prevent improvement in vegetation quality and biomass in riparian, aspen and meadow sites. The same vegetation types covering 950 acres at Conway summit would attain potential biomass within 10 years.</p>	<p>Sage grouse population reduced 35% over 10 years due to livestock grazing - locateable mineral development impacts. Resident mule deer population reduced <math>\geq</math> 20% due to Bureau land disposal, mineral development and grazing. Four sensitive species habitats remain in degraded condition with loss of 1 or more populations of Travertine diving beetle (C2). Riparian/aquatic habitat condition would measurable decline over the long term due to grazing, mineral development and recreational use. Trout habitat productivity at <math>\leq</math> 50% of potential. Heavy livestock use would prevent improvement in vegetation quality, and biomass in riparian, aspen and meadow sites. The same vegetation types covering 9,500 acres at Conway Summit would attain potential biomass within 10 years.</p>



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### Alternative 3

100% of the locateable and 99% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

70% of the area designated for yearlong and seasonal protection is in an area of moderate geothermal potential.

Moderate to high benefits expected from a 2,175 acre private land acquisition, increased management (yearlong protection) emphasis at Conway Summit and Travertine Hot Springs ACECs, various mineral withdrawals at Travertine Hot Springs ACEC and on Dog and Virginia Creeks, improved visitor services, a scenic byway designation, route designation, etc. Some visual impacts expected on small portions of Dog Creek from mineral development. At Conway Summit, some future recreation developments may be limited due to VRM Class I criteria.

A greater loss of dispersed camping and OHV access expected than Alternative 1 due to stricter VRM Class I criteria, greater wildlife habitat protection, etc.

Sage grouse population increase  $\leq 40\%$  due to habitat acquisition, desired plant community management and yearlong protection of meadows and riparian zones. Resident mule deer increased 100-125% due to several proactive measures in important habitats. Habitat for 4 sensitive species significantly improved in vegetative or aquatic quality. Riparian/aquatic habitat condition would measurably improve. Trout habitat productivity at  $\geq 70\%$  of potential. Approximately 30,000 acres would experience measurable improvement in vegetative condition through desired plant community management.

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### Alternative 4

Overall, some impacts as Alternative 3 except the proposed 1,338 acre private land acquisition would have slightly less benefits to visual resources than the 2,175 acre acquisition proposed in Alternative 3. Additionally, future development on the proposed 270 acre disposal along Highway 182 may violate VRM Class III standards along a 1 mile viewshed of the highway.

Sage grouse population increase 10-20% due to improved vegetation management. Resident mule deer population 40-100% due to several proactive measures in important habitat. Habitat for 4 sensitive species measurably improved in vegetative or aquatic quality. Riparian/aquatic habitat condition would measurably improve. Trout habitat productivity at 70% of potential. Severe use of herbaceous forage on 25% of riparian, aspen and meadow acreage by livestock.

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Minerals</b>	<p>The 506 acre disposal is within an area of moderate geothermal potential.</p> <p>30% of the locateable and saleable minerals will be effectively withdrawn from development due to environmental restrictions.</p>	<p>The 506 acre disposal is within an area of moderate geothermal potential.</p> <p>98% of the locateable and saleable minerals will be available for development.</p>
<b>BODIE HILLS Recreation</b>	<p>Generally, most recreation opportunities and visual resources would remain about the same with some severe localized degradation from mineral exploration/development in the Bodie Bowl and at Potato Peak. Long term loss of visitation expected in the Bowl and in outlying areas. Some reduction in deer and sage grouse hunting opportunities expected. Some loss of dispersed camping and OHV access anticipated due to wildlife habitat protection, etc.</p> <p>Some local benefits to visual resources anticipated from route designations, habitat protection/improvements, etc.</p>	<p>Impacts would be similar to Alternative 1 except that there would be some greater visual contrasts expected due to a reclassification of the area to a VRM III class. Additionally, a lack of sage grouse habitat protection/improvements would locally degrade visual resources and result in slightly higher hunting opportunity losses than Alternative 1.</p> <p>Fewer vehicle use restrictions expected due to less wildlife habitat protection, etc.</p>
<b>Wildlife</b>	<p>Sage grouse population reduced 20% over 10 years from mineral development and livestock grazing. Mountain quail populations held significantly below potential carrying capacity. Resident mule deer population reduced <math>\leq</math> 15% from current level due to mineral development, livestock grazing, high level of vehicle use in deer concentration areas displaces animals to less preferred habitat. Pronghorn population maintained at 100 animals</p>	<p>Sage grouse population reduced <math>\geq</math> 40% over 10 years. Mountain quail populations held significantly below potential carrying capacity. Resident mule deer population reduced a minimum of 15% from current level due to livestock grazing, high level of vehicle use in deer concentration areas and mineral development. Pronghorn population maintained at or slightly below 100 animals. Lahontan cutthroat trout (FT) extirpated</p>

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### Alternative 3

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35% of the locateable and 100% of the leasable minerals will be effectively withdrawn from development due to environmental restrictions.

High positive impacts expected from more restrictive VRM classes along major roads route and scenic byways designations; improvement/protection of wildlife habitats, riparian vegetation, and stream channels; acquisition of 13,825 acres of private land; and major minerals withdrawals at Travertine Hot springs and the Bodie Bowl/Historic Landmark. The latter withdrawal would help protect area historic values. Although mining claims with valid existing rights could still threaten area values, overall improvements in hunting, fishing, mountain biking, water quality and environmental interpretation optimize full range of area recreation opportunities.

Local scenic values at Potato Peak would be degraded from minerals activity.

Low adverse impacts to snowmobiling from 5,700 acre protection of sage grouse habitats. A greater loss of OHV access and dispersed camping from wildlife habitat protection than Alternative 1.

Sage grouse population increased by  $\leq 50\%$  due primarily to desired plant community management and doubling the acreage which provides basic sage grouse habitat characteristics. Resident mule deer population increased  $\geq 35\%$  from current level due to several proactive habitat measures. Pronghorn population increased from 50-75%. Sensitive species habitats, generally, maintained. Habitat expansion would occur for 4 sensitive species including the Lahontan cutthroat trout (FT). From 10-30% of total areas occupied by sensitive species would experi-

### Alternative 4

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The 270 acre disposal is within an area of moderate geothermal potential.

90% of the locateable minerals cannot be developed in conformance with VRM I and II requirements.

35% of the locateable and 100% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

40% of the VRM III designation is within an area of moderate geothermal potential.

Moderate positive impacts expected from more restrictive VRM classes along major roads; route and scenic byways designations; improvement/protection of wildlife habitats, riparian vegetation, and stream channels; acquisitions of 5,725 acres of private land; minerals with withdrawals at travertine Hot springs; 4WD route connectors and primitive recreation trails developments.

Adverse impacts to recreation values in the Bodie Bowl/Historic Landmark would be the same as Alternative 1.

Impacts to scenic values at Potato Peak, as well as impacts to snowmobiling, OHV access, and dispersed camping would be the same as Alternative 3.

Sage grouse population increased  $\leq 20\%$  due primarily to desired plant community management and increasing the land area meeting sage grouse habitat characteristics. Resident mule deer population increased 10-15% from current level due to several proactive measures. Pronghorn population increased  $\leq 50\%$ . Sensitive species habitats generally maintained. Habitat expansion for 3 aquatic related sensitive species, but less than that in Alternative 3. From 10-30% of total areas occupied by sensitive species would experience some degrada-

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Wildlife (cont.)</b>	(remains significantly below the goal of 200). Lahontan cutthroat trout (FT) extirpated from Bodie Creek in 5 years. One or more populations of 6 different sensitive species would be extirpated over 10 years. Riparian/aquatic habitat condition overall, would remain at current quality. Some individual sites for riparian, meadow and aspen vegetation types would experience a downward ecological trend due to continuous livestock use from in excess of 70% forage utilization. Trout habitat productivity at 20% of potential.	in Bodie Creek within 5 years. One or more populations of 6 different sensitive species would be extirpated over 10 years. Riparian/aquatic habitat conditions would decline due to numerous consumptive uses. Some individual sites for riparian, meadow and aspen vegetation would experience a downward ecological trend due to continuous livestock grazing in excess of 70% forage use. Trout habitat productivity at 20% of potential. A 50% loss of existing trout habitat would occur.
<b>Minerals</b>	50% of the locateable minerals cannot be developed in conformance with VRM I and II requirements.  25% of the locateable and 50% of the saleable minerals will be effectively withdrawn due to environmental restrictions.	10% of the locateable and saleable minerals will be effectively withdrawn due to environmental restrictions.
<b>GRANITE MOUNTAIN Recreation</b>	Overall, recreation opportunities and visual resources would remain about the same due to offsetting benefits and declines in various recreation activities. Some deer hunting losses expected as well as minor reductions in OHV access and dispersed camping. Low localized adverse impacts expected from disposals near Mono City and chemical spraying in Adobe Valley. Waterfowl hunting to slightly improve on 800 acres at Adobe, Black, Larkin, and Antelope Lakes. Private land acquisitions would improve visual resources in Adobe Valley.	Impacts would be similar to Alternative 1 except that there would be greater visual contrasts expected due to a reclassification of the area to VRM III class. No private land acquisitions would occur in Adobe Valley and waterfowl hunting opportunities would remain the same. Fewer vehicle use on restrictions expected than Alternative 1.

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#### Alternative 3

ence some degradation, primarily from mineral development and livestock grazing. Riparian/aquatic habitat condition would improve due to several proactive measures. Significant improvements in vegetation quality and plant biomass would occur, especially in 100% of the 3 most biologically productive vegetation types: aspen, meadow and riparian. Trout habitat productivity at 75% of potential and habitat suitable for trout would increase by 100%. Improved aquatic habitat on 15 stream miles would permit reintroduction of Lahontan cutthroat trout (FT).

50% of the locateable and saleable minerals cannot be developed in conformance with VRM I and II requirements.

45% of the locateable minerals (including the Galactic - Bodie deposit) and 50% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

10% of the VRM II designation is within an area of moderate geothermal potential.

Moderate to high benefits expected from a more restrictive VRM class, an 11,000 acre private land acquisition, the yearlong protection in Mono Basin, wildlife habitat improvements, and scenic byway designation. Overall improvements in waterfowl hunting on 1,015 acres of area lakes, environmental interpretation and dispersed recreation opportunities. A greater loss of OHV access and dispersed camping from wildlife habitat protection, VRM classes, etc.

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#### Alternative 4

tion, primarily from mineral development and livestock grazing. Riparian/aquatic habitat condition would improve due to several proactive measures. Significant improvement in vegetation quality and plant biomass would occur in 50% of the 3 most biologically productive vegetation types. Trout habitat productivity at 75% of potential and habitat suitable for trout would increase by 75%. Improved aquatic habitat on 15 stream miles would permit reintroduction of Lahontan cutthroat trout (FT).

50% of the locateable minerals cannot be developed in conformance with VRM I and II requirements.

25% of the locateable and 50% of the saleable minerals will be effectively withdrawn due to environmental restrictions.

5% of the VRM II designation is within an area of moderate geothermal potential.

Slight to moderate benefits expected from a more restrictive VRM class, a 3,500 acre acquisition/scenic easements, and wildlife habitat improvements. Additionally, some slight reduction in deer hunting opportunities would occur.

Improvements to waterfowl hunting on 890 acres of 3 area lakes expected.

Impacts to dispersed recreation opportunities, OHV access, dispersed camping and environmental interpretation would be the same as Alternative 3.



**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Wildlife</b>	<p>Sage grouse population reduced 35-40% due to decision allowing 6 continuous years of decline in forb-meadow vegetation from livestock grazing. Bureau acquisition of meadow areas could alleviate some of population decline. Mule deer habitat (mostly on migration corridor) quality diminished which contributes to over winter deer mortality of 10-30% in fawn cohort; due mainly to livestock grazing use of key forage plants. Pronghorn population remains at or slightly increases from current level of 20 animals. Pronghorn habitat slightly improved through some proactive measures. Sensitive plant habitat generally maintained. Approximately 100 acres of sensitive plant areas placed under Bureau management through acquisition. Riparian/aquatic habitat condition, overall, maintained at current quality. Up to 10% of wood biomass removed from piñon-juniper and Jeffrey pine areas for fuelwood. Potential acquisition of over 2,000 acres of meadow vegetation type in Adobe Valley - resulting in improved vegetative quality and increased biomass. Trout habitat productivity would remain at 50% of potential.</p>	<p>Sage grouse population reduced 35-40% due to decision allowing 6 continuous years of decline in forb-meadow vegetation from livestock grazing. No acquisition of meadow areas by Bureau. Mule deer habitat (mostly on migration corridor) quality diminished which contributes to over winter deer mortality of 10-30% in fawn cohort; due mainly to livestock grazing use on key forage plants. Pronghorn habitat would remain in current condition or decline slightly. Pronghorn population would decline to <math>\leq</math> 10 animals. Sensitive plant habitat would receive some protection from additional habitat loss through route designations. Riparian/ aquatic habitat condition would remain in current condition or decline slightly. Trout habitat productivity would remain at 50% of potential. Jeffrey pine area at Dry Creek would have <math>\geq</math> 50% of live trees removed through timber sale - long term loss of plant and animal biomass.</p>
<b>Minerals</b>	<p>50% of the area designated for seasonal protection and VRM II is in an area of moderate geothermal potential.</p> <p>50% of the locateable and saleable minerals cannot be developed in conformance with VRM I and II requirements.</p> <p>20% of the locateable and 50% of the saleable minerals will be effectively withdrawn due to environmental restrictions.</p>	<p>100% of the locateable and saleable minerals <i>can</i> be developed.</p>

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### Alternative 3

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Sage grouse population increased a minimum of 25% due to proactive management using desired plant communities and habitat acquisition and enhancement. Mule deer habitat (mostly migration corridor) quality improved through proactive management. Over winter deer mortality reduced  $\leq 10\%$  in the fawn cohort. Pronghorn habitat condition would improve through several proactive measures. Pronghorn population would increase 4-6 times current level. Sensitive plant habitats, generally, maintained with yearlong protection afforded to 2,000 acres. Riparian/ aquatic habitat condition would measurably improve on 100% of acres through desired plant community management. Trout habitat productivity would increase to 70% of potential. Significant improvement in plant biomass and productivity on all meadow-riparian sites, plus 50% of pinyon-juniper areas. Bureau acquisition would place several hundred additional acres of meadow vegetation under desired plant community management.

60% of the area designated for VRM II and seasonal protection is in an area of moderate geothermal potential.

50% of the locateable and 55% of the saleable minerals cannot be developed in conformance with VRM I and II requirements.

20% of the locateable and 55% of the saleable minerals cannot be developed due to environmental restrictions.

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### Alternative 4

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Sage grouse population increased a minimum of 150% due to proactive management using desired plant communities and enhancement of acquired habitat. Mule deer habitat (mostly migration corridor) quality improved through proactive management. Over winter deer mortality reduced to 10-15% in the fawn cohort. Pronghorn habitat condition would improve through several proactive measures. Pronghorn population would increase 1.5 - 4 times the current level. Sensitive plant habitat condition, generally, maintained at current level. Yearlong protection afforded to 2,000 acres of sensitive plant area. Riparian/ aquatic habitat condition would improve on 80% of site acres. Trout habitat productivity would increase to 70% of potential. Up to 11% of current riparian vegetation lost to diversion of 5% of spring/stream flow. Significant improvement in plant biomass and productivity on all meadow and 75% of riparian acreage. Bureau acquisition would place slightly less acreage of meadow vegetation under desired plant community management.

60% of the area designated for seasonal protection and VRM II is in an area of moderate geothermal potential.

70% of the 3 mile buffer zone around Mono Lake is in an area of high geothermal potential.

50% of the locateable and 55% of the saleable minerals cannot be developed in conformance with VRM I and II requirements.

20% of the locateable and 55% of the saleable minerals cannot be developed due to environmental restrictions.

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>BENTON Recreation</b>	<p>Overall, recreation opportunities and visual resources would remain about the same except for localized visual impacts from future developments on disposals and mining along Highway 6 (total of about 25 miles of viewsheds) as well as utility line development along Highway 120. Some loss of dispersed camping and OHV access expected particularly along the White Mountain alluvial fans north of Silver Canyon and around the Fish Slough ACEC. Some low increases in waterfowl hunting anticipated at Fish Slough ACEC.</p> <p>Recreation use at Fish Slough ACEC would improve moderately the next 10 years.</p>	<p>Impacts would be similar to Alternative 1 except that there would be greater visual impacts expected due to a declassification of most of the area to a VRM IV class. Visual resources in the Fish Slough ACEC, however, would be enhanced from the establishment of a more restrictive VRM Class III in the ACEC's west half.</p> <p>Although losses of OHV use opportunities along the White Mountain alluvial fans would be the same as Alternative 1, there would be fewer vehicle restrictions overall than under Alternative 1.</p> <p>Recreation use in Fish Slough ACEC would be the same as Alternative 1.</p>
<b>Wildlife</b>	<p>Sage grouse population reduced 20% primarily from mineral development over long term. Winter mule deer population reduced <math>\leq 17\%</math> due to several actions. Pronghorn population would be maintained at current winter level of 75 animals. Habitat and populations for 3 sensitive animal species severely degraded or lost due to development or land disposal. Riparian/aquatic habitat condition would remain at current level, overall. Trout habitat productivity would be increased to 90% of potential on the one stream with the majority of trout habitat. Biotic diversity would be reduced on 4,400 acres of pinyon-juniper type through removal of dead wood.</p>	<p>Sage grouse population reduced 20% over long term primarily from mineral development. Winter mule deer population reduced <math>\leq 17\%</math> due to several actions. Pronghorn winter population would decline by a minimum of 30% due to several actions. Habitat and populations for 3 sensitive animal species severely degraded or lost due to development or land disposal. Riparian/aquatic habitat condition would decline due to several uses, including increased water diversion/use for consumptive purposes. Trout habitat productivity would decline to <math>&lt; 70\%</math> of potential. Biotic diversity would be measurably reduced on 4,400 acres of pinyon-juniper type.</p>
<b>Minerals</b>	<p>6% of the 11,212 acre disposal is in an area of moderate geothermal potential.</p> <p>15% of the locateable and 20% of the saleable minerals will be effectively withdrawn due to environmental restrictions.</p>	<p>6% of the 11,212 acre disposal is in an area of moderate geothermal potential.</p> <p>15% of the locateable and 20% of the saleable minerals will be effectively withdrawn due to environmental restrictions.</p>

### Alternative 3

Moderate to high benefits expected from more restrictive VRM classes, route designations, geothermal leasing prohibitions, wildlife habitat and watershed improvements, utility line restrictions, yearlong protection in South Tableland, acquisition of 2,400 acres of private land, a scenic byway designation, and an increased recreation management emphasis for the Volcanic Tableland access.

Some local degradation (6 miles of viewsheds) would occur along Highway 6 if mining activity occurs. A greater loss of OHV access and dispersed camping would occur from wildlife habitat protection, more restrictive VRM Classes, etc.

Recreation use in South Tableland would increase moderately over the next 10 years.

Sage grouse population reduced < 10% due to habitat loss from mineral development despite proactive desired plant community management on some sage grouse areas. Winter mule deer population would increase  $\leq$  6% due to a number of offsetting proactive and negative actions. Pronghorn winter population would increase  $\leq$  100% over the long term from several beneficial actions. Sensitive species habitat and populations would significantly improve from current condition except for several populations of western big eared bat (C2) which would decline due to recreation use. Riparian/aquatic habitat condition would improve over the long term due to several beneficial actions. Trout habitat productivity would increase to  $\geq$  90% of potential. Vegetative biomass and productivity would be significantly increased on the most diverse vegetation types (riparian, meadow).

5% of the area designated for VRM II is in an area of moderate geothermal potential.

10% of the seasonal protection area is in an area of high geothermal potential.

### Alternative 4

Moderate benefits expected from more restrictive VRM classes, route designations, geothermal leasing restrictions near thermal springs, wildlife habitat and watershed improvements, salable minerals restrictions in the South Tableland, acquisition of 240 acres of private land, and an increased recreation management emphasis for the Volcanic Tableland area.

Some adverse visual impacts expected from disposal development on 5,382 acres, mostly along Highway 6 and from local mining development along a 6 to 8 mile viewshed of Highway 6. OHV access and dispersed camping impacts would be the same as Alternative 3 except greater losses would occur in the southeast portion of the M.A. due to disposals.

Recreation use in south Tableland would be the same as Alternative 3.

Sage grouse population reduced < 10% due to habitat loss from mineral development despite some proactive measures to improve habitat. Winter mule deer population would increase  $\leq$  6% due to a number of negative and positive actions. Pronghorn winter population would increase  $\leq$  100% over the long term from several beneficial measures. Sensitive species habitat would generally improve their condition, however, up to 11% of springsnail habitat would be lost and potential to recover 2 endangered species in Fish Slough greatly reduced due to no habitat acquisition by the Bureau. Riparian/aquatic habitat condition would improve over the long term due to several actions. Trout habitat productivity would increase to 90% of potential. Vegetative biomass and productivity significantly increased on riparian and meadow areas. Bureau acquisition of 155 acres of meadows foregone at Fish Slough.

3% of the 200 and 5,382 acre disposals are in an area of moderate geothermal potential.

5% of the area designated VRM II is in an area of moderate geothermal potential.

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
	20% of the locateable minerals cannot be developed in conformance with VRM I & II requirements.	
<b>LONG VALLEY Recreation</b>	Overall, recreation opportunities and visual resources would remain about the same with local benefits from habitat management, geothermal leasing restrictions, and route designations. Deer hunting/observations opportunities would decrease slightly. Some loss of dispersed camping and OHV access due to wildlife habitat management, VRM Class criteria, etc.	Slight to moderate adverse impacts expected from greater visual contrasts due to a reclassification of the area to a VRM III class, wildfire suppression scars, reductions in wildlife (deer, sage grouse, and pronghorn) hunting/observation opportunities, closure of Crowley Lake Campground.
		Fewer vehicle use restrictions expected than Alternative 1.
<b>Wildlife</b>	Sage grouse population increased $\leq 5\%$ if AMP's developed for Allotments 6018 and 6022, otherwise population would remain static or slightly decrease over long term. Mule deer using the migratory corridor would decrease by $\leq 5\%$ if cumulative development actions occur on Bureau and private land. Pronghorn population would remain at current level of 20 animals. Riparian/aquatic habitat condition would be maintained or slightly decrease on 60% of acreage. Remainder of acres on 2.5 stream miles would be improved. Meadow and sagebrush-bitterbrush vegetation would continue to be excessively used by livestock (meadow utilization levels exceed 80% season long, a downward ecological trend occurs in sagebrush-bitterbrush). One population of the Travertine diving beetle (C2) lost due to "hot tub" development. Other sensitive animal and plant species habitats/ populations severely degraded or lost due to "hot tub" activity or livestock grazing.	Sage grouse population reduced 25% primarily due to livestock grazing, mineral development and recreational activity. Development of Bureau land in migration corridor would reduce mule deer use by 10%. Pronghorn population reduced by 50% due primarily to downward ecological trend in allotments 6018 and 6022 and mineral development. Riparian/aquatic habitat condition would measurably decline on numerous springs and stream miles from several consumptive uses. The sagebrush-bitterbrush and meadow types would continue in a downward ecological trend and at an accelerated rate. One population of the Travertine diving beetle (C2) lost due to "hot tub" development. Other sensitive animal and plant species habitats/ populations severely degraded or lost due to "hot tub" activity or livestock grazing.



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### Alternative 3

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Closure of 1 mile radius around thermal sources would eliminate leasing in high and moderate potential areas.

50% of the locateable minerals cannot be developed in conformance with VRM I & II requirements.

20% of the locateables and 50% of the saleable minerals will be effectively withdrawn due to environmental restrictions.

Moderate benefits expected from 2,630 acre private land acquisition, habitat improvements, campground relocation, improved wildlife hunting/observation opportunities, hot tub developments, primitive recreation trails development, a scenic byway designation, and environmental interpretation of area values.

A greater loss of OHV access and dispersed camping would occur from wildlife habitat protection than under Alternative 1.

Sage grouse population increased by 25% due to several proactive habitat measures. Number of mule deer using the migration corridor would be maintained. Pronghorn population would increase by  $\geq 100\%$  due to vegetation improvement and other actions. Riparian/aquatic habitat condition would significantly improve on several springs and stream miles through desired plant community management. Significant improvement would occur in desired plant community quality and biomass on a total of 1,965 acres. Habitat for sensitive animal species protected and enhanced through several measures. Sensitive plant species habitat would improve their ecological condition over the long term with AMP's on allotments 6018 and 6022. Locateable mineral development would cause the loss of one or more populations of sensitive plants.

### Alternative 4

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10% of the seasonal protection area is in an area of high geothermal potential.

45% of the locateable minerals cannot be developed in conformance with VRM I & II requirements.

20% of the locateables and 50% of the saleable minerals will be effectively withdrawn due to environmental restrictions.

Slight to moderate benefits expected from a 555 acre private land acquisition, wildlife habitat improvements, improved sage grouse hunting/observation opportunities, hot tub developments, primitive recreation trail development, a scenic byway designation, and environmental interpretation of area values.

Impacts to OHV access and dispersed camping would be the same as Alternative 3.

Sage grouse population increased by 5-20% due to proactive measures. Number of mule deer using the migration corridor would be maintained. Pronghorn population would increase by  $\leq 100\%$  due to vegetation improvement and other measures. Riparian/aquatic habitat condition would measurably improve on some springs (fewer than Alternative 3) and stream miles (same as Alternative 3). "Hot tub" use would degrade habitat at 1-6 springs. Significant improvement would occur in desired plant community quality and biomass on 1,850 acres. Most habitat for sensitive animal species protected through several measures. Locateable mineral development would cause the loss of 1 or more populations of sensitive plants.

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Minerals</b>	<p>100% of the VRM II designation is in an area of high geothermal potential.</p> <p>100% of the locateable and 95% of the saleable minerals cannot be developed in conformance with VRM I &amp; II requirements.</p>	<p>The 9 parcels for disposal are in an area of high geothermal potential.</p> <p>100% of the locateable and 5% of the saleable minerals will be effectively withdrawn due to environment restrictions.</p>
<b>OWENS VALEY Recreation</b>	<p>Overall, recreation opportunities and visual resources would remain the same, although site specific losses and benefits would occur. Mineral development activity in the Poverty Hills, Tungsten Hills, Inyo Mountains and the Yaney Mine would adversely affect visual resources along local roads. Proposed disposals (2,738 acres) and new utility lines would affect local visual resources adversely while scenic and recreation values in the Alabama Hills would be improved. Wildlife hunting/observation opportunities would be reduced due to habitat loss; however, some slight benefits to visual resources expected from route designations and a 560 acre acquisition in Round Valley. Some loss of dispersed camping and OHV access expected from seasonal protection, riparian management, etc.</p>	<p>Overall, visual resources would remain the same with local areas incurring more significant adverse change. Utility line and mineral impacts to visual resources would be the same as Alternative 1. The lack of management emphasis in the Alabama Hills, a lack of acquisitions and riparian management would make impacts greater than Alternative 1. Wildlife related recreation opportunities would decline from losses in deer and quail hunting, fishing, and elk observations. Recreation values would increase slightly in the Alabama Hills.</p> <p>Fewer vehicle use and dispersed camping restrictions expected due to less wildlife habitat protection.</p>
<b>Wildlife</b>	<p>California quail populations would be reduced 5-15% due to Bureau land disposals and mineral development. Mule deer numbers would be decreased up to 9% within 3 winter deer populations due to land disposal and mineral development. Tule elk numbers would be reduced in critical habitats (calving areas) by 10-20% primarily from mineral exploration and development. Five sensitive animal species and 3 sensitive plant species would experience habitat condition decline or loss of one or more populations through minerals development, land disposal or</p>	<p>California quail populations would be reduced 10-20% due to Bureau land disposals and mineral development. Mule deer numbers would be decreased <math>\geq 10\%</math> within 3 winter deer populations due to land disposal and mineral actions. Tule elk numbers would be reduced in critical habitats (calving areas) by <math>\geq 20\%</math> primarily from mineral activities. Five sensitive animal species and 3 sensitive plant species would experience habitat condition decline or loss of one or more populations through land disposal, mineral development or recreational use</p>

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### Alternative 3

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NSO designations will prohibit geothermal exploration and development in the high potential area.

100% of the locateable and saleable minerals cannot be developed in conformance with VRM II requirements.

20% of the locateable and some saleable minerals will not be developed due to environmental restrictions.

Moderate to high benefits from an 8,900 acre acquisition; wildlife habitat protection; route designations; localized mineral withdrawals, geothermal leasing and yearlong protection.

Recreation values and opportunities would improve in the Alabama Hills, Crater Mountain, and area creeks. Wildlife related opportunities would remain the same or improve. An environmental education center, scenic byways designations, and interpretive program development would provide additional benefits.

A greater loss of dispersed camping and OHV access expected than Alternative 1 due to greater wildlife habitat protection. Negative impacts to visual resources from mineral development in the Tungsten and Poverty Hills areas, Inyo Mountains, and Yaney Mine would be the same as Alternative 1.

California quail population would increase up to 10% due to several proactive measures. Habitat (vegetation) improvements would be offset by mineral development within mule deer winter range-winter range. Carrying capacity for mule deer would remain at present level. Tule elk numbers would be maintained at current level in calving areas. Three sensitive species would have additional acreage under Bureau management. Several new populations of 2 endangered species would occur on Bureau land. Habitat and populations of 5 sensitive species would be degraded or lost primarily from mineral development. Riparian/aquatic habitat condition would improve over the long term. Trout habitat

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### Alternative 4

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NSO designations will prohibit geothermal exploration and development in the high potential area.

100% of the locateable and saleable minerals cannot be developed in conformance with VRM II requirements.

20% of the locateable and some saleable minerals will not be developed due to environmental restrictions.

Overall impacts would be similar to Alternative 3 with less benefits expected due to fewer acquisitions (2,700 acres), potential development on a 2,237 acre disposal, and new utility lines. Acquisitions of 1,700 acres at Manzanar would, however, enhance recreation opportunities and values.

California quail populations would remain, generally, at their current level. Mule deer winter range carrying capacity would remain at present level due to canceling affects of vegetation improvement and mineral development. Tule elk numbers would be maintained at current level in calving areas. Three sensitive species would have additional habitat under Bureau management, but at fewer sites than Alternative 3. Several new populations of endangered species would occur on Bureau land. Habitat and populations of 5 sensitive species would be degraded or lost. Riparian/aquatic habitat condition would improve over the long term. Trout habitat productivity would increase up to 90% of potential. Desired plant

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Wildlife (cont.)</b>	recreational use of specific areas. Riparian/aquatic habitat condition would remain at the current level, overall. Trout habitat productivity would remain at 75% of potential. Condition and areal extent of the sagebrush-bitterbrush type would be reduced primarily due to mineral activities. One-fourth of the riparian acreage would be protected from non-discretionary actions.	of specific areas. Additional sensitive plant habitat lost or degraded in the Alabama Hills. Riparian/aquatic habitat condition would decline due to several intensive uses. Trout habitat productivity would decline to $\leq 50\%$ of potential. Condition and areal extent of the sagebrush-bitterbrush type would be reduced primarily due to mineral activities.
<b>Minerals</b>	<p>No known geothermal potential occurs in the 2,738 acre disposal or VRM II area.</p> <p>10% of the seasonal protection area is in an area of moderate geothermal potential.</p> <p>15% of the locateable and 25% of the saleable minerals will be effectively withdrawn due to environmental restrictions.</p>	<p>No known geothermal potential occurs in the 3,152 acre disposal or VRM II area.</p> <p>10% of the seasonal protection area is in an area of moderate geothermal potential.</p> <p>10% of the locateable and 10% of the saleable minerals will be effectively withdrawn due to environmental restrictions.</p>
<b>SOUTH INYO Recreation</b>	<p>Recreation opportunities would increase slightly from acquisition and protection of historic features, protection of water quality and environmental interpretation of area values.</p> <p>Vehicle routes in the proposal South Inyo Wilderness would be closed to motorized vehicle use.</p> <p>Visual resources would remain about the same with some slight degradation in localized areas from disposals development and mining. Some local improvements are expected from acquisitions, wildlife habitat management and route designations.</p>	<p>Recreation opportunities would be slightly diminished by potential impacts to hunting, reduction of water quality, and a lack of protection, acquisition and interpretation of historic values in the area.</p> <p>Vehicle routes in the proposed South Inyo Wilderness would be closed to motorized vehicle use.</p> <p>Adverse impacts to visual resources would be the same as Alternative 1.</p>

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### Alternative 3

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productivity would increase to  $\geq 90\%$  of potential due to several measures directed at stream systems. Desired plant community management would occur, through acquisition, on an additional 200+ acres of riparian meadow vegetation. Desired plant community management would increase vegetation biomass and productivity on meadow-riparian sites 5-15%.

No known geothermal potential occurs in the VRM II area, Alabama Hills and Crater Mountain areas.

10% of the seasonal protection area is in an area of moderate geothermal potential.

20% of the locateable and 35% of the saleable minerals will be effectively withdrawn due to environmental restrictions.

Moderate to high benefits expected from minerals withdrawal on 22,618 acres of public lands. Most sensitive viewsheds occur along Highway 136, Cerro Gordo, and Owenyo Roads. Additional benefits from acquisitions, habitat improvements, route designations, scenic byways, and environmental interpretation of area values.

Vehicle routes in the proposed South Inyo Wilderness would be closed to motorized vehicle use. Additionally, a seasonal closure of Long John Canyon Road would require wilderness users to walk two miles to Long John Canyon trailhead.

### Alternative 4

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community management would occur through acquisition on 90% of the additional acres as covered under Alternative 3 and would increase by 5-15% vegetation biomass on meadow and riparian sites (on 25% less acres).

No known geothermal potential occurs in the 200 and 2,237 acre disposals or VRM II area or the Crater Mountain areas.

10% of the seasonal protection area is in an area of moderate geothermal potential.

20% of the locateable and 35% of the saleable minerals will be effectively withdrawn due to environmental restrictions.

Slight to moderate benefits expected to local recreation opportunities from acquisitions, habitat improvements, mineral withdrawals on the Pat Keyes Trail, environmental interpretation of area values, and a scenic byway designation. Vehicle routes in the proposed South Inyo Wilderness would be closed to motorized vehicle use. Additionally, a seasonal closure of Long John Canyon Road would require wilderness users to walk two miles to Long John Canyon Trailhead.



**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Wildlife</b>	Mule deer resident population would be maintained at the current level of 250 animals. Riparian/aquatic habitat would remain in current condition primarily due to their isolated location. One spring and $\leq$ 0.5 acres of riparian vegetation would be degraded due to mineral development over the long term. Two sensitive animal species would experience habitat loss and extirpation of one or more populations primarily due to locatable mineral development and land disposal. The majority of the dune vegetation type would be eliminated over the long term due to Bureau land disposal.	Mule deer resident population would be maintained at or slightly below the current level of 250 animals due to loss of habitat quality. Riparian/aquatic habitat would remain in current condition except for 1 spring and associated riparian vegetation degraded by mineral development. Habitat and populations of 3 sensitive animal species would decline or be eliminated due to several land uses over the long term. The majority of the dune vegetation type would be eliminated over the long term due to Bureau land disposal.
<b>Minerals</b>	No known geothermal potential occurs in the 2,351 acre disposal.  55% of the locatable and saleable minerals will be effectively withdrawn due to environmental restrictions.	No known geothermal potential occurs in the 2,351 acre disposal.  50% of the locatable and saleable minerals will be effectively withdrawn due to environmental restrictions.
<b>OWENS LAKE Recreation</b>	Overall, recreation opportunities and visual resources would remain about the same with some possibility for slight to moderate degradation on disposals from development along Highways 190 and 136 and mineral development near Keeler. Some slight losses in fishing and hunting opportunities as well as OHV access.	Generally, same impacts as Alternative 1 except that fishing opportunities would be more degraded from habitat loss. Additionally, there would be fewer OHV access restrictions under this alternative.

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### Alternative 3

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Habitat enhancement measures for mule deer would increase the resident population up to 60% from present number. Riparian/ aquatic habitat would remain in current condition or slightly improve the quality due to prohibiting discretionary actions in or near the sites. Habitat and populations of sensitive animal and plant species would be maintained in their current condition over the long term. The pinyon-juniper community would significantly increase the level of plant/animal diversity and biomass in 25% of the area due to management for desired plant community characteristics.

85% of the locateable and saleable minerals cannot be developed in conformance with VRM I and II requirements.

70% of the locateable and 85% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

Slight to moderate benefits expected from acquisition (2,752 acres), withdrawals, yearlong protection, and dust control. Support for Interpretive development at the interagency visitor center and improved fishing and nature appreciation opportunities would enhance recreation opportunities.

Some slight negative impacts to visual resources near Keeler expected from anticipated mineral development.

A slightly greater loss of OHV access than Alternative 1 due to wildlife habitat protection.

### Alternative 4

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Habitat enhancement measures for mule deer would increase the resident population up to 60% from present number. Slight potential for a decline in areal extent of riparian/aquatic habitat through withdrawal of 5% of flow from surface water sources. Habitat and populations of sensitive animal and plant species would be maintained in their current condition over the long term. The pinyon-juniper community would significantly increase the level of plant/animal diversity and biomass in 25% of the area due to management for desired plant community characteristics.

No known geothermal potential occurs in the 82 acre disposal.

80% of the locateable and saleable minerals cannot be developed in conformance with VRM I and II requirements.

60% of the locateable and 80% of the saleable minerals will be effectively withdrawn from development due to environmental restrictions.

Impacts would be the same as Alternative 3 but less benefits expected due to reduced acquisitions of private land (584 acres).

**Table 2-2. Impacts of Alternatives by Management Area (continued)**

	Alternative 1	Alternative 2
<b>Wildlife</b>	<p>Winter mule deer population would be reduced up to 17% due to loss of habitat from new transmission lines and related developments. Tule elk numbers in calving habitat would be reduced 5-10% due to impacts from land disposal and expansion of a livestock grazing allotment. Riparian/ aquatic habitat would remain in current condition or decline slightly on 4.5 miles of stream. Maximum trout productivity would occur in 25% of the available habitat. Substantial components of 2 sensitive species habitats would be degraded or lost due to one or more land uses. Up to 12% of the dune vegetation type would be altered or lost over the long term due to land disposal. Up to 80% of meadow vegetation would decline in ecological condition due to livestock forage use at <math>\geq 90\%</math> in the growing season.</p>	<p>Winter mule deer population would be reduced up to 17% from loss of habitat by placement of new transmission lines and related developments. Tule elk numbers in calving habitat would be reduced 10-15% due to several new impacts. Riparian/aquatic habitat conditions would decline on 4.0 miles of stream. Maximum trout productivity would not occur in any of the available habitat. Substantial components of 2 sensitive species habitats would be degraded or lost due to one or more land uses. Up to 12% of the dune vegetation type would be altered or lost over the long term due to land disposal. Up to 80% of meadow vegetation would decline in ecological condition due to livestock forage use at <math>\geq 90\%</math> in the growing season.</p>
<b>Minerals</b>	<p>5% of the 5,774 acre disposal is within an area of moderate geothermal potential.</p> <p>100% of the locateable and saleable minerals will be available for development.</p>	<p>5% of the 5,774 acre disposal is within an area of moderate geothermal potential.</p> <p>100% of the locateable and saleable minerals will be available for development.</p>

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### Alternative 3

Winter mule deer population would be reduced up to 12% from loss of habitat by placement of new transmission lines and related developments. Tule elk numbers in calving habitat would remain at the current level. Riparian/aquatic habitat conditions would significantly improve on 1.5 miles of stream. Maximum trout productivity would occur in 2.0 miles of stream. Current Bureau administered sensitive species habitats would be maintained. Bureau acquisitions of other sensitive species areas would occur. Habitat for 2 endangered species would be expanded into the management area. Riparian vegetation on 2 streams would be substantially improved in available plant biomass.

No effect on geothermal development from NSO stipulations and leasing withdrawals at Braley and Section 22 springs.

85% of the locatable and saleable minerals *will be* available for development.

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### Alternative 4

Winter mule deer population would be reduced up to 12% from loss of habitat by placement of new transmission lines and related developments. Tule elk numbers in calving habitat would remain at the current level. Riparian/aquatic habitat conditions would significantly improve on 1.5 miles of stream. Current Bureau administered sensitive species habitats would be maintained. Bureau acquisitions of other sensitive species areas would occur. Habitat for 2 endangered species would be expanded into the management area. Riparian vegetation on 2 streams would be substantially improved in available plant biomass.

No effect on geothermal development from NSO stipulations and leasing withdrawals at Braley and Section 22 springs.

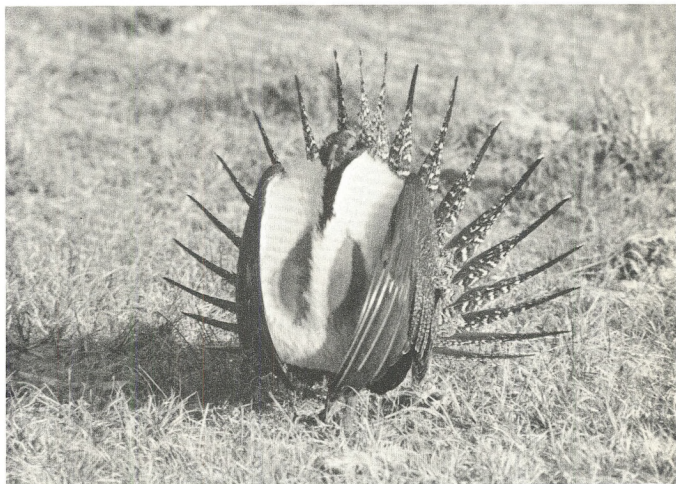
90% of the locatable and saleable minerals *will be* available for development.





## Chapter 3

# Affected Environment



*Sage Grouse at Long Valley.*



## Introduction

This chapter provides a description of the Bishop Resource Area to serve as a baseline for comparison with impacts projected in Chapter 4. The topics described are those likely to be significantly affected by implementation of the alternatives.

The first section of this chapter provides an area-wide perspective of key resources and conditions with emphasis on individual management areas when necessary to understand site-specific impacts. The second section provides a brief description of each management area. The third section describes the transmission line corridor study areas.

## Resource Area-Wide Perspective

### Recreation

#### Visual Resources

Visitors to the eastern Sierra are attracted by its magnificent scenery. Visual resources are particularly important along major highways, secondary roads, and visitor use areas. U.S. Highway 395 traverses the Bishop Resource Area from the southern boundary where it leaves the California Desert Conservation Area and proceeds to the Nevada State line at the north end of the resource area. The highway is traveled by several million vehicles annually, affording travelers a wide variety of panoramic views from the spectacular contrast of the precipitous and massive Sierra Nevada to the Owens Valley floor. The highway provides travelers picture perfect views of Long Valley; the broad expanse around the Mono Basin Scenic Area; mountain meadow settings of Conway Summit; and pelicans lazily floating on Topaz Lake. The visual resources along the highway are scenically diverse and important to area visitors.

Additional scenic values are recognized along State Highway 168 from Big Pine to the Bristlecone Pine Forest. The Mono Basin Scenic Area, protected for its visual qualities, is bordered by Bureau land including the Bodie Hills to the north, Mono Basin to the east, and Cowtrack Mountain to the southeast. Visual resource management along travel corridors to the Scenic Area and to Bodie State Park have become increasingly important as visitation has increased over the last several years. Scenic views are also important along Highways 6 and 120; at the Fish Slough ACEC; along Fish Slough Road and county roads near

Bishop; the Gelger Grade Road; State Highway 167 in the Mono Basin; and State Highway 89 overlooking Slinkard Valley.

In many cases, Bureau lands along the main roads serve as foreground and middleground to the higher elevation USFS lands. In the Mono Basin, Bureau lands are the background of the Lake views from U.S. Highway 395. Bureau lands dominate the views in the Granite Mountain, Alabama Hills, Slinkard Valley, Bodie Hills, South Inyos and Volcanic Tableland viewsheds.

Visual resources have been inventoried using the Bureau's Visual Resource Management System (VRM), which evaluates the landscape by the scenic quality, area sensitivity to visual change, and distance from key observation or viewer points. Four VRM classes are defined in Appendix 4.

The resource area was classified and mapped by these standards for the MFPS. The VRM classes and areas are shown on Figures 2-1 and 2-2.

#### Vehicle Use

Off-highway vehicle (OHV) use opportunities are available throughout the resource area. Vehicle use is limited to designated roads and trails. However, the Poleta Canyon area (1,300 acres) is open for cross-country vehicle use. Seasonal closures are designated for some areas in the Owens Valley and Benton Valley areas.

The Interagency and High Desert OHV studies, joint USFS and BLM projects, are currently undergoing the route designation process for all Bureau lands in the resource area south of State Highway 167.

The preliminary results of the ongoing route designation process indicate that Bureau lands lend themselves to management which emphasizes semi-primitive motorized opportunities. The emphasis is to disperse OHV users over large areas, and encourage long touring loops with few, if any developed facilities. Under this concept, visitors use routes to access various parts of the resource area. Viewing the scenery, recognition of the resource values, and the desire to explore on designated routes enhance the recreation experience.

Snowmobiling occurs in the Conway Summit, Long Valley, and Coleville areas. This activity is limited to designated roads and trails near Crowley Lake and

north of State Highway 89 to protect wintering big game and sage grouse. Cross-country skiing is popular at Conway summit, and is increasing in the Bodie Hills.

## Recreational Opportunities

The Bishop Resource Area provides a wide array of recreational opportunities. Recreation activities are mostly dispersed. The quality of opportunities is good due to the low use, diversity, and ample access. The most popular activities include OHV use, fishing, hunting, mountain biking, horseback riding, windsurfing, nature photography and sightseeing. Sightseeing opportunities are mostly related to cultural and historic values, geologic features, and wildlife appreciation. Camping is usually associated with fishing and hunting activities. Winter activities include snowmobiling, cross-country skiing, and snowshoeing.

Concentrated recreation occurs in areas that provide unique opportunities or are known for exceptional features. Such areas include the Bodie State Park and Bodie Bowl; Fish Slough ACEC; Travertine Hot Springs ACEC; natural hot springs in Long Valley; Conway Summit; Virginia, Green, and Dog Creeks; four Bureau campgrounds; and the Alabama Hills. Bodie State Park was visited by 188,000 people in 1989-1990. The Fish Slough ACEC accounts for 2,000 visitors per year and 5,000 people visit Travertine Hot Springs ACEC per year.

Mountain bike use has grown throughout the resource area. Recent publications of Bureau riding opportunities encourage additional use. Popular areas include the Alabama Hills, Tungsten Hills, Crater Mountain, Mazourka Canyon, Long Valley, Bodie Hills and Fish Slough.

## Recreation Opportunity Spectrum (ROS)

Recreation opportunities in the resource area were classified according to the Recreation Opportunity Spectrum (ROS). The ROS provides a framework to stratify and define classes of outdoor recreation environments. As conceived, the ROS has application to all lands, regardless of ownership or jurisdiction.

A cursory ROS inventory was prepared for the resource area using GIS computer modeling and field knowledge. Most physical settings in the resource area fall into 1 of 3 categories: semi-primitive nonmotorized, semi-primitive motorized, and roaded natural. In some instances, portions of the resource area were classified as primitive (the proposed South Inyo Wilderness) and rural (Bodie State Park and the Owens Valley communities).

A description of the classes follows:

1. The "Primitive" area is managed to be essentially free from evidence of man, and of man-induced restrictions and controls. Motorized vehicle use is not permitted. The area is managed to maintain an extremely high probability of experiencing isolation from the sights and sounds of others, independence, closeness to nature, self-reliance through the application of backcountry skills, and an environment that offers a high degree of challenge and risk. Backcountry use levels and management of renewable resources are dependent on maintaining natural ecosystems and primitive experience levels. The consumption of renewable resources is subject to the protection of backcountry recreational values. Recreation activities include backpacking, hiking, camping, horseback riding, and nature study. Frequency of managerial contact with users is very low. A small portion of the Resource Area falls in this category - mostly in the proposed South Inyo Wilderness Area.
2. Semi-Primitive Non-Motorized areas are managed to be largely free from the evidence of man, man-induced restrictions, and controls. Motorized vehicle use is prohibited. Limited facilities for the administration of livestock and visitor use are allowed, but off-site administration is encouraged. Project designs should stress protection of natural values. Areas are managed to maintain a good probability of experiencing minimum contact with others, self-reliance through the application of backcountry skills, and an environment that offers some of risk and challenge. Major portions of the resource area falling in this category include Slinkard Valley, portions of the Bodie Hills and Mono Basin, South Volcanic Tableland, Crater Mountain, etc.
3. Semi-Primitive Motorized areas are managed to provide a predominantly natural or natural-appearing environment. Evidence of man, restrictions, and controls are present but subtle. Motorized vehicle use is permitted. Concentration of users is low, but there is often evidence of other users. On-site interpretative facilities, low standard roads and trails, trailheads, and signing should stress the natural environment in their design and be the minimum necessary to achieve objectives. Recreation activities include car-camping, OHV touring, backpacking, hiking, horseback riding, nature study, and viewing scenery. Frequency of managerial contact with visitors is low to moderate on trails and primitive roads. Major portions of the resource area falling in this category include



portions of Bodie Hills and Mono Basin, Northern Volcanic Tableland, Tungsten Hills, and major portions of the Owens Valley.

4. Roaded Natural areas are managed to provide a natural-appearing environment with moderate evidence of the sights and sounds of man. Motorized use is permitted. Concentration of users is moderate with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Development of facilities for motorized use is provided for in any proposed construction standards and design of facilities. Placement of rights-of-way, utility corridors, management facilities, and other surface-disturbing activities would be favored in this zone over placement in Primitive or Semi-Primitive Non-Motorized zones when applicable. The consumption of natural resources is allowed except at any proposed or developed trailheads, developed recreation areas, and geological features interpreted as major themes. Recreational activities occurring in this zone include organized camping (developed recreational facilities), OHV touring, picnicking, trailer camping, rockhounding, nature study, and viewing of historical and prehistoric resources. Staging areas for backcountry use and for interpretation of geological features occur in this zone. Frequency of managerial contact with visitors is moderate to high. These areas comprise lands primarily along federal, state, and county maintained roads.
5. Rural areas are characterized by a substantially modified natural environment. Resource modification and utilization practices are obvious. Sights and sounds of man are readily evident, and the concentration of users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for specific activities. Developed sites, roads and trails, are designed for moderate to high use. Moderate densities are provided far away from developed sites. Facilities for intensive use are available. These areas include communities within the resource area.

The majority of Bureau lands provide recreation opportunities conducive to semi-primitive motorized and semi-primitive nonmotorized physical settings. Easy access combines with natural settings to provide an environment that lends itself to dispersed recreation activity. In the past, recreation users on Bureau lands have been generally satisfied with these opportunities. As a result, recreation prescriptions in this plan would protect resource values and associated recreation

opportunities. In some cases, enhancement of opportunities would be proposed which include improved visitor services, environmental mitigation, construction of primitive recreation trails and 4-WD route connectors, etc.

In the statewide plan, *Recreation 2000 - A Strategic Plan for California Recreation*, the Bureau identifies its recreation program, cost estimates, and management actions from 1990 to 2000. It describes several resource area issues and objectives. It stresses 1) management of safe and operable campgrounds, 2) provision of OHV opportunities and protection of resource values, and 3) conducting field patrols and resource monitoring. Areas of concern include Fish Slough ACEC, the High Desert OHV Study Area, Conway Summit, the Alabama Hills Special Recreation Management Area and the Bodie Bowl Special Recreation Management Area. It additionally states that the Bureau will continue to support the Interagency Visitor Center and provide brochures for public distribution.

## Recreation Use Areas

### Fish Slough ACEC

The Fish Slough ACEC, located in the southern Volcanic Tableland is one focal point of visitor use in the management area. The area was designated in 1985 for its sensitive fish and plant species, riparian values, petroglyph features, geologic and watershed qualities. The area has received increased use over the last several years and that use is expected to continue. Many people drive the Petroglyph Loop during their visit to the area. Area management strives to provide a mostly semi-primitive setting with a provision for resource protection, visitor services and interpretation facilities. Access to the area's resource values is by foot, mountain bike and passenger vehicles. Some fishing, waterfowl hunting, and horseback riding occur in the ACEC. Use averages at least 2,000 visitors per year. Approximately 10 acres of waterfowl habitat are used by local hunters.

### Travertine Hot Springs ACEC

The Travertine Hot Springs ACEC was designated in 1987. It was established to protect the unique formations of travertine and other natural values. Following this designation a number of vehicle routes were closed to protect the area's natural values. The hot springs area, close to U.S. Highway 395, provides easy access and has become a popular use area for local residents and out-of-area visitors. Numerous unauthorized hot tub developments have been constructed by visitors to the hot springs area. Locals police the area for trash. In 1987, routes in sensitive



meadow areas were closed and posted. It is estimated that approximately 5,000 visitors per year use the area. Sale or removal of traveltime may be incompatible with the resource due to its uniqueness and scarcity in the region. Over the last few years, several target shooting areas have developed, creating a safety hazard.

#### ***Bodie Bowl Special Recreation Management Area (SRMA)***

The Bodie Bowl Special Recreation Management Area (SRMA) is an administrative designation BLM has initiated to "specially manage" Bureau lands surrounding Bodie that are within observation of the state park. Approximately 188,000 visitors saw the park in 1989-1990, up from 101,415 visitors in 1984-85. Most park visitors get to the park via the Bodie Road (State Route 270) and the Cottonwood Canyon Road. Bureau lands in the valley encompassing the park are known as the Bodie Bowl. These Bureau lands surrounding the immediate park vicinity receive some associated use from the park in the form of historical sightseeing, photography, picnicking, etc. Most park use occurs from May through September. BLM and the State of California currently maintain a cooperative agreement to manage Bureau land in the Bowl consistent with the historic and interpretive goals of the Bodie State Park Management Plan. The cooperative agreement addresses issues of vehicle use, hunting restrictions to improve visitor safety, visitor services and protection/interpretation of historical values. In 1989, the California Department of Parks and Recreation reaffirmed the intent and spirit of the cooperative agreement. Bureau land in Bodie Bowl totals approximately 7,200 acres.

One major objective for the Bodie Bowl SRMA in the *Recreation 2000, A Strategic Plan for California Recreation* is to provide for adjacent public land uses that are compatible with the State Park management philosophy.

A major issue that has been identified is potential development of an open pit gold mine near Bodie Bluff. Present day mining operations of this magnitude would be incompatible with the overall objectives for the area.

#### ***Alabama Hills Special Recreation Management Area (SRMA)***

The Alabama Hills National Recreation Lands were designated on April 11, 1969 to protect the area's unique geologic and aesthetic qualities. This designation was rescinded as a result of the Federal Land Policy and Management Act of 1976. It was redesignated a Special Recreation Management Area (SRMA) in the early 1980's. Present management remains one of monitoring use and responding to

problems arising from incompatible activities. Because the area is popular with both local and out-of-area recreationists, degradation of the area's scenic values, indiscriminate camping, OHV use, littering and vandalism are problems to be resolved. Additionally, some indiscriminate target shooting areas have developed in the area.

Management objectives for the Alabama Hills SRMA in the *Recreation 2000, A Strategic Plan for California Recreation* include OHV and mountain bike management, and resource protection and monitoring.

## **Wildlife**

### **Sage Grouse and Quail**

Sage grouse are sparse but widely distributed over the northern region of the resource area. Inventories for this species have identified 42 strutting grounds (leks), 94,500 acres of nesting and brood-rearing habitat, and 17,000 acres of wintering habitat (Figure 3-1). Strutting grounds are of primary importance to the management of sage grouse habitat since they serve as focal points for reproduction, and nesting and brood-rearing activities. Most nests are located within 2 miles of active strutting grounds. Hen nesting and egg hatching occurs from May to mid-June. Riparian and wet meadow habitats are also extremely important to grouse reproduction. Essential foods for grouse chicks are concentrated in these habitats, and hens with chicks tend to concentrate their activities near wet meadows and springs after about the first 3 weeks of chick life. For hens with chicks up to 3 weeks post hatching, preferred habitat near the nest has a 14% average canopy cover (primarily sagebrush), and provides adequate amounts of forbs and insects for chicks. Wintering habitat is characterized by areas of greatest available sagebrush canopy cover. Sage grouse populations by management area are presented in Table 3-1.

Both California quail and mountain quail occur in the resource area. Although both species have common habitat use and food requirements, they prefer different vegetative conditions for most life activities. California quail frequently use openings and edge situations in contrast to the continuous cover situations often preferred by mountain quail. California quail are found in greatest numbers in the south-half of the resource area. In the Owens Valley MA, numerous streamside riparian areas along the west side of the valley combine shrub-grass-weedy habitats to provide almost ideal conditions for California quail. Similar habitat conditions also exist in the Owens Lake, Benton, and Coleville MAs. Several thousand California quail are present in the Owens Valley and Coleville MAs.

**Table 3-1. Sage Grouse Populations**

Management Area	Population	Number of Strutting Grounds
Bridgeport Valley	150	2
Bodie Hills	1,050	23
Long Valley	1,000	14
Granite Mountain	140	3

Mountain quail populations are restricted to a few locations in the resource area and generally occur in low numbers. Mountain quail are also closely associated with riparian vegetation; however, their preferred habitat, dense continuous shrub cover and steep slopes, is poorly represented in the resource area. The Coleville, Bodie Hills, Bridgeport, and South Inyo MAs provide small "islands" of suitable habitat that support small populations of mountain quail.

### Mule Deer

Mule deer are widely distributed throughout the Bishop Resource Area and are managed by the California Department of Fish and Game (CDF&G) as nine individual herd units (Table 3-2). Individual herds represent geographically distinct populations and are managed under CDF&G deer herd management plans. Population objectives of total numbers, buck:doe ratios, and fawn:doe ratios are identified in these plans. Additional objectives for harvest, data collection, habitat quality, and conflict resolution are included. The Bureau of Land Management (BLM) is a signatory cooperator to these plans, and works closely with CDF&G to manage habitat to meet herd plan objectives.

Mule deer distribution is dependent on weather conditions (storm severity, snow depth, winds, etc.), forage availability, forage quality, cover quality, and human disturbance factors. Seasonal variation in habitat use occurs when herds move from the higher elevation spring, summer, and fall ranges to the lower elevations that serve as winter range. For most herds, the USFS lands of the Sierra Nevada serve as summer range. However, in the Bodie Hills, Bridgeport Valley, and South Inyo MAs, high elevation (8,000+ feet) aspen, riparian, and shrubland habitats managed by BLM also serve as summer range.

**Table 3-2. Mule Deer Herds**

Herd Name	Population Objective	Current Population
West Walker	8,500-9,500	3,000
East Walker	5,000	3,000
Casa Diablo	2,245	2,500
Mono Lake	4,000	3,000
Buttermilk	3,000	1,250
Sherwin	2,400	1,250
Inyo/White Mtn	none (25:100 b:d)	55 counted
Goodale	none (20/35:100 b:d)	2600
Monache	8,000-9,000	7,000-8,000

Key habitats include winter ranges, migration corridors, holding areas, and fawning areas (Figures 3-2 and 3-3). Winter ranges are characterized by the presence of bitterbrush vegetation communities. Bitterbrush is a fundamental component of the winter diet. Sixty-three thousand acres of Bureau lands serve as crucial winter ranges for the nine herd units. Fawning habitats are closely associated with riparian and aspen communities. These habitats provide high quality forage for lactating females, good escape and hiding cover for fawns, and reliable water sources.

### Tule Elk

Tule elk are distributed throughout the Owens Valley MA in 6 recognized herd areas. These are not distinct large herds, but several groups of elk that have overlapping ranges. These herds are cooperatively managed by the BLM, CDF&G and LADWP through the Tule Elk Management Plan. In 1971, the State of California established a maximum allowable population of 490 elk for the Owens Valley. Annual counts of all herd areas have recorded an average of 520 elk over the past 10 years. Habitats affected the most by Bureau management are localized calving areas. At least 9 distinct calving areas totaling 35,000 acres have been identified (Figure 3-4). The BLM administers about 45% of this important habitat type.

### Pronghorn

Three pronghorn populations are found in the planning area. These include the Bodie Hills, Hammil Valley, and Benton-Queen Valley populations (Table 3-3 and Figure 3-5).

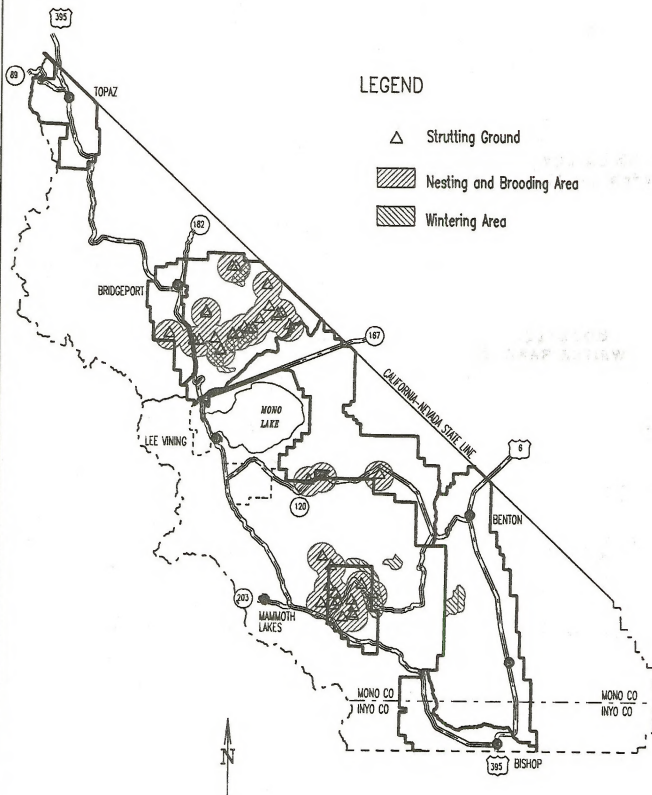
# SAGE GROUSE HABITAT

## LEGEND

△ Strutting Ground

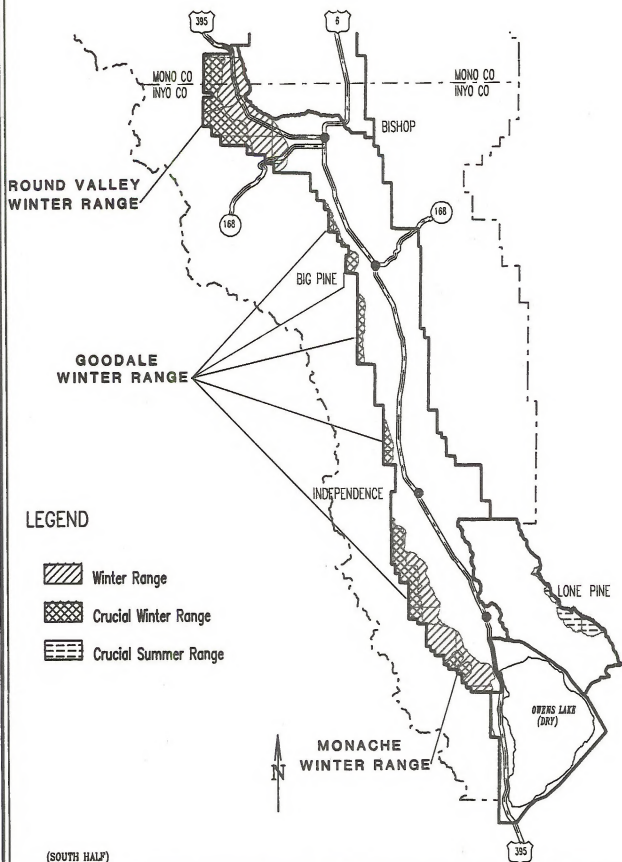
▨ Nesting and Brooding Area

▨ Wintering Area

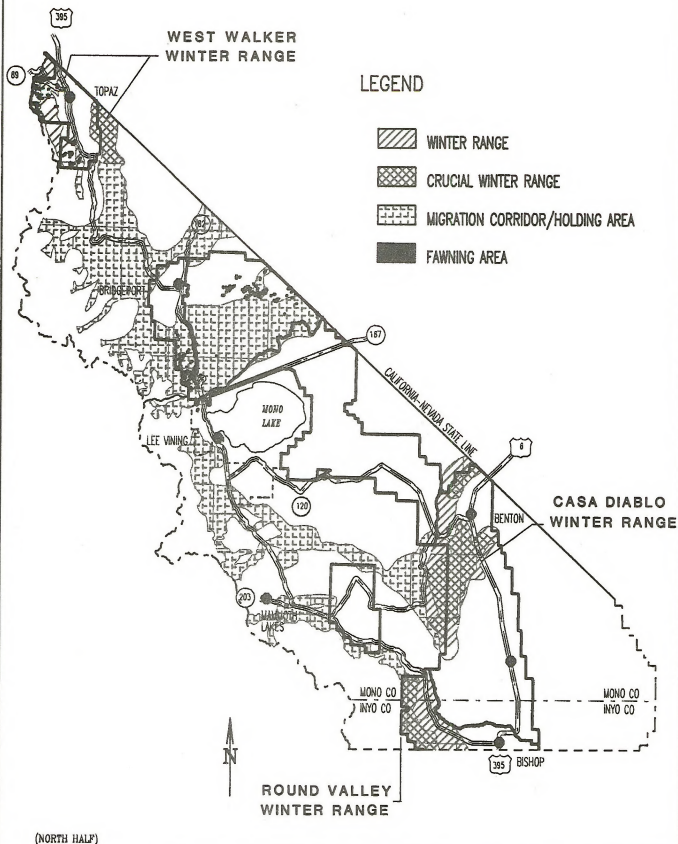


(NORTH HALF)

# KEY MULE DEER HABITAT

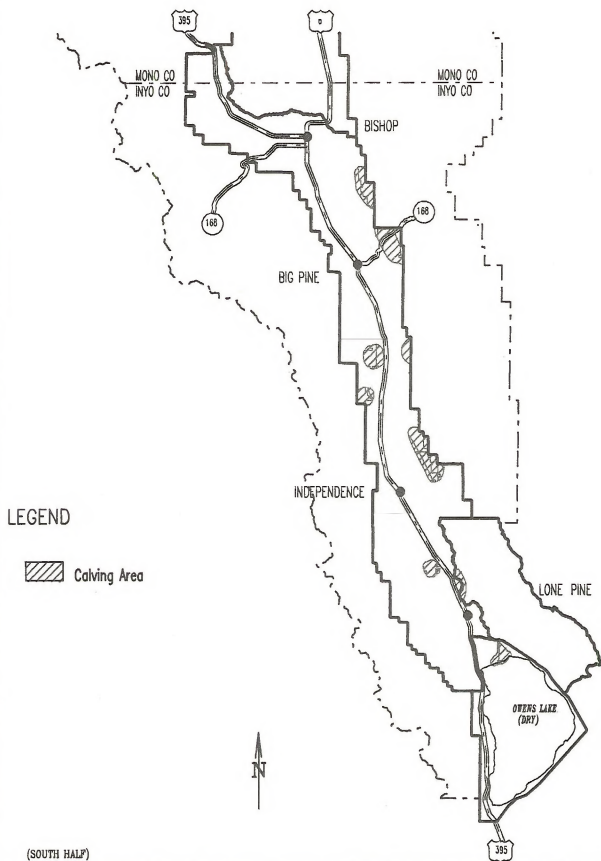


# KEY MULE DEER HABITAT





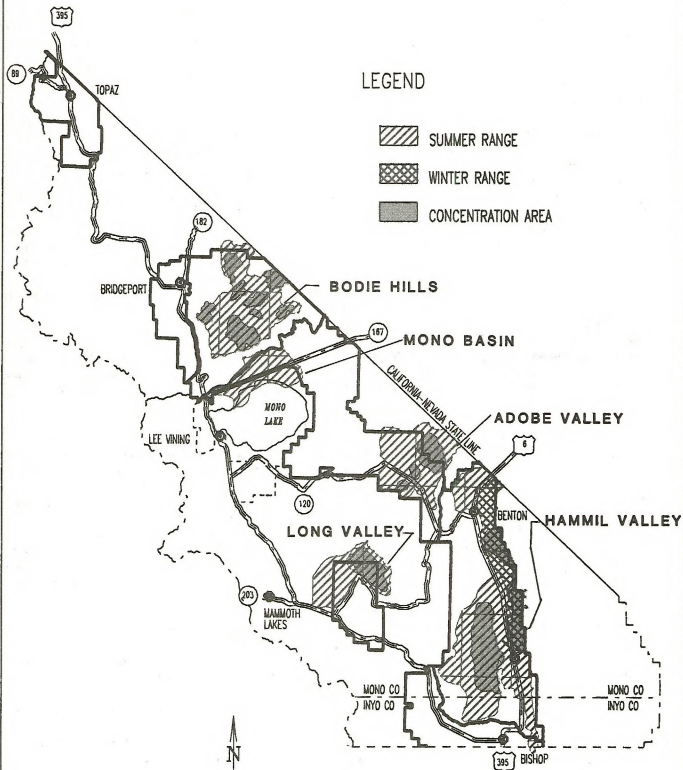
## TULE ELK CALVING AREAS



# PRONGHORN HABITAT

## LEGEND

-  SUMMER RANGE
-  WINTER RANGE
-  CONCENTRATION AREA



(NORTH HALF)

The Bodie Hills population has existed since 1947 when it was reintroduced into historic range. This group of 85 animals summers in the higher elevations of the Bodie Hills, where fawning occurs on Bureau lands in May and June. They migrate into Nevada as winter snow conditions force them to lower elevations. A population objective of 200 animals has been established for this herd by the CDF&G and BLM.

The Hammil Valley and Benton-Queen Valley populations result from three separate reintroductions into Mono County in 1982, 1984, and 1985 by the CDF&G and the BLM. Both populations are stable to slightly expanding. A total population of approximately 25 individuals occurs in Hammil Valley. Approximately 5-15 animals from this population summer in the Crowley Lake area. A population of 45-60 pronghorn is found in Benton and Queen Valleys where they occur year around. A portion of this herd (5-20 animals) migrates west into Adobe Valley for the summer and fall period annually.

Pronghorn in the resource area typically occupy sagebrush habitats near springs and meadows during spring and summer. During these seasons, does with fawns require a large volume of forbs to meet the nutritional demands of lactation and the nutritional needs of fawns. Pronghorn habitat preference centers around large meadows interspersed among low and big sagebrush sites which have an average vegetation height of less than 30 inches, high plant species diversity, and water available every 1-3 miles. Habitat quality in many areas is only fair due to large areas of decadent, old growth shrubs (primarily sagebrush), and a lack of understory vegetation (primarily forbs). Good quality habitat is limited to areas near perennial water sources that produce wetland/marsh type vegetation important to lactating females with fawns. Important winter habitats are characterized by sagebrush communities with adequate shrub quality to provide necessary winter forage and thermal cover.

**Table 3-3. Pronghorn Herds**

Herd Unit	Current Population
Bodie Hills	80-100
Hammil Valley	25
Benton Valley	45-60

## Threatened and Endangered Species

### Owens pupfish (*Cyprinodon radiosus*) Owens tui chub (*Gila bicolor snyderi*)

Two protected ponds in Fish Slough marsh, known as the Owens Valley Native Fish Sanctuary, provide habitat for the Owens pupfish (federal endangered) and the Owens tui chub (federal endangered). These sanctuary ponds retain populations of both species and are located on lands leased and managed by CDF&G. The ponds and stream channel at BLM Spring on Bureau land in Fish Slough contain an additional population of Owens pupfish. The Owens tui chub will be introduced into BLM Spring in 1990. A third area on Bureau land in the marsh also contains a small population of Owens pupfish. All 5 endangered fish habitats in the Fish Slough marsh are continually threatened by illegal exotic species introductions and encroachment of phreatophyte vegetation. Two locations in the Benton MA have been identified for construction of ponds to support additional populations of both endangered fish species. These ponds are scheduled to undergo construction by the end of 1992.

The endangered Owens pupfish is also present in 2 ponds and the outflow channel at Warm Spring on the east side of Owens Valley. The spring source, ponds, and overflow channel are located on LADWP land. Warm Spring is the most stable environment for pupfish in the resource area. Problems of exotic species introduction and excessive growth of phreatophyte vegetation have not occurred here as in Fish Slough. A recently constructed pond on Bureau land at Mule Spring will serve as the newest refugia for Owens pupfish and Owens tui chub in the eastern Owens Valley. Along with the Owens speckled dace (*Rhinichthys osculus*), both species will be introduced into the pond during 1990. Over the next 5 years, the BLM is scheduled to develop several new refugia for these 3 rare fish along the eastern edge of the Owens Valley.

### Bald eagle (*Haliaeetus leucocephalus*)

The bald eagle (federal endangered) is commonly found on Bureau land throughout Round Valley and occasionally near Tinemaha Reservoir. Large trees are preferred roosting and perching sites. In Round Valley the bald eagle is associated with mule deer winter range where it occasionally scavenges carcasses of deer.

### **American Peregrine falcon (*Falco peregrinus anatum*)**

The Long Valley MA is within the historic range of the American peregrine falcon (federal endangered). While there are no known nesting sites (aeries) within the resource area, a cooperative effort between the BLM, USFS, LADWP, and CDF&G to reestablish birds through "hacking" has resulted in several peregrine being successfully released in the past several years. The Long Valley MA provides excellent foraging habitat for this species.

### **Lahontan cutthroat trout (*Onchorhynchus clarki henshawi*)**

The lower portion of Bodie Creek, on Bureau land near the Nevada state boundary, contains a small population of Lahontan cutthroat trout (federal threatened). In addition, in 1989 the CDF&G chemically treated Mill Creek in the Coleville MA to remove non-native species of trout, and reintroduce native Lahontan cutthroat trout. This species will likely be reintroduced by 1991, and will occupy the upper one-third mile of Mill Creek on Bureau land.

### **Candidate Species**

Twelve animals classified as candidates for threatened or endangered species status by the U.S. Fish and Wildlife Service are found in the resource area. These species (2 insects, 2 amphibians, 2 birds, and 6 mammals) occupy several locations in the planning area. Additional locations provide habitat conditions favorable to both species of insects and at least 2 of the mammalian species. Complete inventories are lacking for 4 of the species. All twelve species are listed in Appendix 6.

### **Other Species of Management Concern**

Several ponds and ephemeral lakes provide habitat for many species of waterfowl. Canada geese, northern pintail, mallard, cinnamon teal, greenwing teal, gadwall, and American widgeon are the species most commonly using one or more of the 9 wetland habitats in the resource area. Topaz Lake, Big Alkali, and Fish Slough provide the only perennial wetland habitats used by waterfowl in the resource area. Ephemeral wetlands depend on normal to above normal precipitation to create aquatic habitat conditions to attract and support waterfowl.

Pine marten, goshawk, and blue grouse are very restricted in their distribution in the resource area. Currently, these 3 species are only known to occur in

the Coleville MA. These species are associated with the old growth white fir stands and the mixed large tree riparian-Jeffrey pine communities.

The black bear is also restricted in distribution in the resource area. The Coleville, Bodie Hills, and Bridgeport MAs provide habitat characteristics suitable for supporting a total population of 15-25 bears. Black bear successfully reproduce in the Coleville MA. Preferred habitat includes the dense understory vegetation of riparian and aspen communities and piñon-juniper areas. The old growth white fir areas also provide essential habitat for black bear daily maintenance activities.

The prairie falcon occurs throughout most of the resource area, predominantly using shrub vegetation types as foraging areas. Few nest site (aerie) locations are known. Active nest sites are documented for the South Inyo, Owens Valley, and Benton MAs with possible aeries in the Granite Mountain MA.

The Owens speckled dace is present in 2 streams in the resource area. Both streams where this native fish occurs are less than 200 feet in length. Overwinter populations at both sites drop to less than 36 fish with mid to late summer population levels increasing to 100+ adults and juveniles at the height of reproduction. Although not proposed for listing as a threatened or endangered species by the U.S. Fish and Wildlife Service, a 1988 survey of 164 historic and potential sites located only 8 Owens speckled dace populations in Inyo and Mono Counties. Only 1 population (found on Bureau land) is not subject to water diversions or the effects of site alteration. The Bishop Resource Area considers this species to be as rare or in danger of extirpation as the Owens pupfish and Owens tui chub.

The Great Basin springsnail (*Pyrgulopsis* sp. and *Tryonia protea*) occurs within 5 management areas and at 10 sites on Bureau land. Springsnails require free flowing, well oxygenated water of good quality and are typically restricted to small (less than 100 square feet) areas at the outflow of natural springs. Heavily silted spring sites, or those with heavy algal cover normally do not support springsnails. Some species of springsnails, such as *Pyrgulopsis owensensis* and *Pyrgulopsis perturbata*, are found only in the Owens Valley.

### **Aquatic and Fisheries Habitat**

Surface water is present throughout the resource area in the form of streams, springs, and small lakes or ponds. There are 69 streams with 146 miles of



riparian/aquatic habitat within the Bishop Resource Area (Figures 3-6 and 3-7). A total of 325 springs have been identified.

The quality of aquatic and fisheries habitat throughout the resource area is variable. Some streams and/or stream reaches are in excellent condition, while others are degraded due to livestock impacts, road construction, mining, or recreation activities. Stream surveys conducted in 1978/1979 and 1988/1989 evaluated the riparian and stream channel conditions of 146 miles of stream. Of those inventoried, 28.3 miles were in excellent condition, 53.25 miles were in good condition, 34.75 miles were in fair condition, and 30.75 miles were in poor condition. Heavy livestock grazing and trampling were the most common factors degrading stream channel stability and riparian vegetation composition and structure. While these inventories emphasized riparian habitat condition, streambank and channel stability, the data do indicate general aquatic habitat quality. Of the 146 stream miles, 66 miles (45%) were identified as needing restoration. An additional 53 stream miles (36%) could use some habitat improvement. Streams in the Owens Valley, Owens Lake, Coleville, and Benton MAs tend to be in better condition than those in the Bodie Hills, Bridgeport, and Granite Mountain MAs. The Bodie Hills streams appear to have the best opportunities and capability for improvement. However, all stream miles in poor or fair condition classes need improved management.

An inventory of spring conditions was conducted from 1983 to 1985 on 282 of the 325 known springs in the resource area. Of those inventoried, 89 were in "good" condition, 141 were in "fair" condition, and 52 were in "poor" condition. Factors influencing the ratings related to water quality, livestock trampling affects, and vegetative conditions.

Large bodies of water include perennial lakes and reservoirs (Topaz Lake, Bridgeport Reservoir, Crowley Lake) and ephemeral lakes on desert playas (Big Alkali Flat, Dry Lakes, Larkin Lake, Adobe Lake, and Antelope Lake). While the large permanent reservoirs are relatively unaffected by BLM management actions, ephemeral lake beds are often influenced by livestock grazing practices and OHV use.

Water quality throughout the resource area is generally good, although areas of naturally high dissolved minerals occur near hot springs and geothermal aquifers.

Springs tested for water quality in areas regularly grazed by livestock had higher levels of bacteria, nutrients, and sediment resulting from fecal contamination

and trampling. Water quality data is available for 62 perennial and intermittent streams. Twenty streams rated as "good", 31 as "fair" and 11 as "poor" water quality. Four streams were tested for domestic use in the Bodie Hills MA, none of these were suitable for human consumption due to fecal coliform bacteria contamination. Most streams in areas grazed by livestock have high levels of fecal coliform. Mercury levels in Bodie Creek exceeded the standard for coldwater aquatic life and human consumption. The level of arsenic in Bodie Creek also exceeded human consumption standards.

Sediment is the highest and most pervasive form of pollution in BLM managed streams. The sediment pollution problem deserves serious consideration from a water quality standpoint because it reflects watershed conditions. Removal of vegetative cover within a watershed, particularly along a stream course, initiates sediment transport into streams. Sediment laden waters impair stream channel competence which may lead to channel gulying. Little Mormon Meadow Creek, Clearwater Creek, and Rough Creek in the Bodie Hills MA regularly exceed suspended sediment criteria for coldwater aquatic life.

Stream diversions for agricultural production, low-head hydroelectric plants, and domestic water use have nearly eliminated natural water sources in some areas. Notable streams that have been significantly or completely dewatered include those draining the White Mountains and the Sierra Nevada.

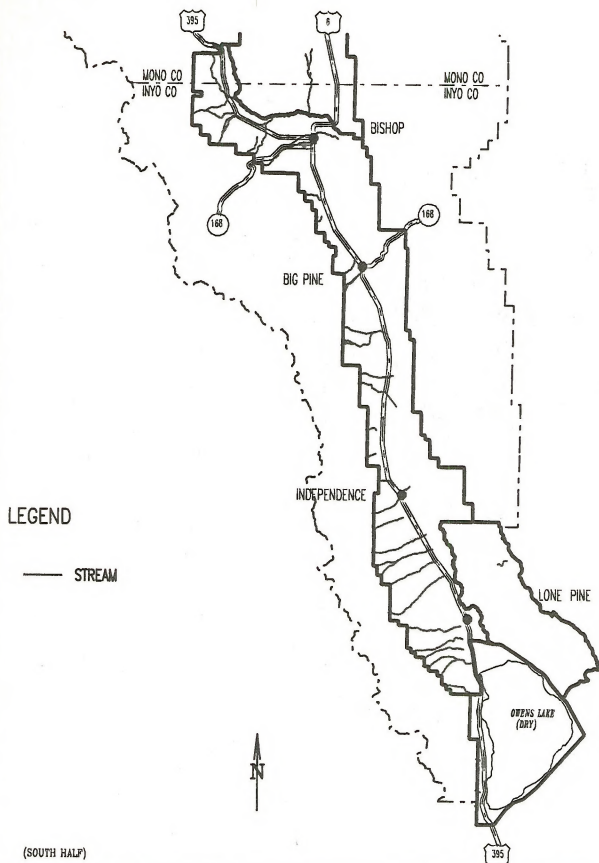
Unimpeded natural flows support nonconsumptive uses and good water quality. Maintenance or improvement of aquatic habitat for fish and other species, aesthetic and visual quality standards, recreational use, and stream channel competence are dependent on instream flows.

Groundwater recharge of aquifers on Bureau lands comes mainly from precipitation which falls at higher elevations as snow. The best aquifers are in the middle to lower portions of extensive alluvial fans and in coarse deposits associated with streams. The City of Los Angeles and the town of Mammoth Lakes are major users of groundwater. Future major uses of groundwater in the area include geothermal and other mineral development. A groundwater pumping agreement between Inyo County and LADWP may affect riparian habitat capability if surface water and vegetation is affected by lowered water tables.

Streams, springs, ponds and reservoirs on Bureau lands provide habitat for six native fish species and five trout species. Native fish in the resource area include Piute sculpin, Tahoe sucker, Owens speckled dace,



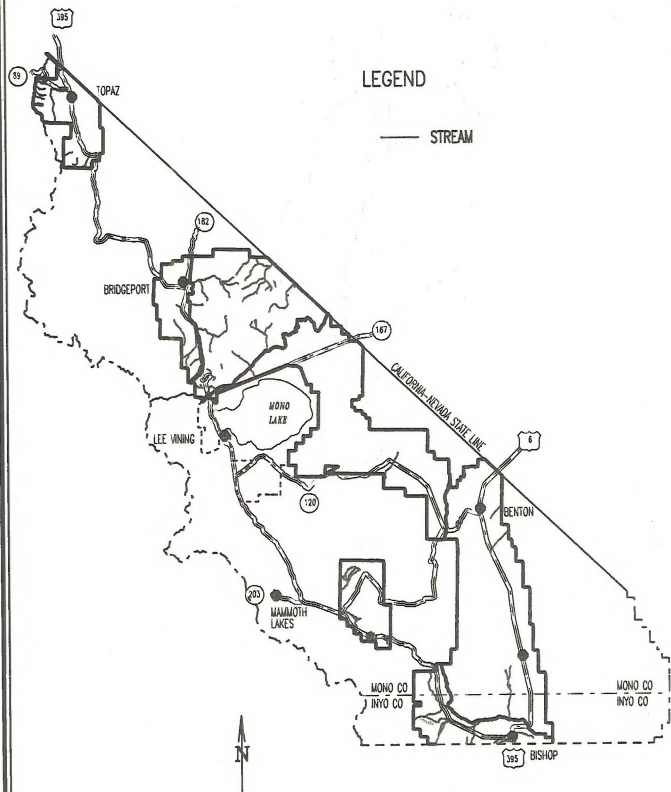
# STREAMS



# STREAMS

## LEGEND

— STREAM



(NORTH HALF)

Owens pupfish (federal endangered), Owens tui chub (federal endangered) and Lahontan cutthroat trout (federal threatened). Salmonid species in either stocked or naturalized-reproducing populations include brown trout, rainbow trout, golden trout, and eastern brook trout. The most widely distributed and abundant salmonids are brown and rainbow trout. A population of the only native trout, Lahontan cutthroat, is found in one stream in the Bodie Hills MA. No trout species are native to the Owens River system. Streams managed as fisheries are listed in Table 3-4.

## Vegetation

The vegetation of the Bishop Resource Area is characterized as a transition between the Mojave Desert Floristic Province that occurs in the southern Owens Valley and the Great Basin Floristic Province that dominates the northern two-thirds of the area. Vegetation communities in the southern portion of the resource area are strongly influenced by the hot desert environment of the Mojave, while the area from Bishop north is influenced by the cold desert environment of the Great Basin. A transition between the Sierra Nevada Floristic Province and the Great Basin Floristic Province occurs in the Long Valley and Bridgeport MAs.

Vegetation inventories and mapping were conducted in the Bishop Resource Area during the preparation of two livestock grazing Environmental Impact Statements: the Benton-Owens Valley Livestock Grazing EIS in 1978, and the Bodie-Coleville Livestock Grazing EIS in 1980. A total of sixteen "cover types" were classified in the Bodie-Coleville inventories (Table 3-5), and fourteen "habitat types" were classified in the Benton-Owens Valley inventories (Table 3-6). Detailed information on the ecological condition of particular areas or vegetation communities is available in the EIS documents at the Bishop Resource Area Office.

Ecological condition of the resource area vegetation was classified during the vegetation inventories. These ratings reflect the composition of the climax species in the existing plant communities and are shown below in Table 3-7.

Ratings of "good" indicate greater than 50 percent of the climax plant community, with key forage species making up a significant portion of the plant community. Plant cover is adequate to maintain site stability.

"Fair" condition ranges have 26-50 percent of the climax community with key species present, but in quantities lower than the site's potential. Most fair

condition ranges have reduced plant cover, but due to rapid soil permeability and low precipitation levels, are stable.

"Poor" condition ranges have 0-25 percent of the climax community intact. Key forage species, if present at all, are unavailable to grazing animals. Total productivity of the site may be far below potential. Plant cover is much reduced.

The general condition of the two EIS areas is presented in Table 3-7. Detailed information on the ecological condition of particular areas or communities is available in the EIS documents at the Bishop Resource Area Office.

## Vegetative Communities of Special Concern

### Aspen

Aspen groves are generally located in the Coleville, Bridgeport, and Bodie Hills MAs. In the Bodie Hills area, approximately 125 individual grove complexes provide 1,351 acres (69% on BLM) of potentially diverse habitat. Currently, over 75% of this aspen acreage provides less than favorable habitat conditions for all ground inhabiting wildlife species. The primary damage to aspen groves is the loss of most understory vegetation from livestock grazing. Understory vegetation normally provides food and cover for deer, black bear, and a large array of other mammals and birds. Other actions that have damaged or eliminated portions of aspen groves include road construction, mineral exploration and development, and illegal woodcutting (primarily by overnight campers).

There are approximately 112 individual aspen groves in the Bridgeport MA that provide 887 acres of aspen habitat. The results of a 1980 survey for vegetation condition and wildlife habitat condition within a representative sample of these aspen groves found 86% of the aspen acreage in good to excellent vegetation condition with the remainder in fair to poor condition. The same survey found 83% of the aspen acreage in good to excellent wildlife habitat condition. A resurvey of the same aspen groves in 1988 found only 21% in good to excellent vegetation condition and only 6% in good to excellent wildlife habitat condition. As in the Bodie Hills MA, the primary damage to aspen groves is the loss of most understory vegetation from excessive livestock use. Roads bisecting aspen groves are another primary cause of loss or damage to this vegetation type in the Bridgeport MA.

Table 3-4. Stream Fisheries

Stream Name	BLM Miles	Fish Species
Coleville Area		
Sinkard Creek	1.75	BT
Mill Creek	2.0	LT,TS,BT
Lost Canyon Creek	2.25	BT
Bridgeport Area		
Dog Creek	3.5	BT,RT
Green Creek	1.0	BT,PS,TS,SD,RT,EBT
Virginia Creek	9.0	RT,BT,EBT,TS
Bodie Hills Area		
Atastra Creek	1.5	RT
Aurora Creek	5.5	RT
Bodie Creek	.75	LT,BT
Clark Canyon Creek	4.0	RT
Clearwater Creek	1.75	BT,RT
Rough Creek/tributaries	10.0	RT,TS
Long Valley Area		
Hot Creek	0.5	RT,BT,HTC
Little Hot Creek	0.5	HTC
Granite Mountain Area		
Adobe Creek	1.5	BT
Wilson Creek	5.75	BT
Benton Area		
Marble Creek	3.5	BT(OSD**)
Coldwater Creek		BT
Fish Slough		OP,OTC,BT,LMB,CC
Birch Creek	2.8	BT
Silver Canyon Creek	1.0	BT
Owens Valley Area		
Mule Spring	(.1 acre)	(OP,OTC,OSD**)
Tuttle Creek	4.5	BT,RT
Goodale Creek	1.75	BT,RT
Lower Rock Creek	1.7	BT,RT
Independence Creek	2.6	BT,RT
Lone Pine Creek	4.9	BT,RT
Symmes Creek	2.75	BT,RT
Bairs Creek	5.0	BT,RT
Big Pine Creek	0.25	BT,RT
Horton Creek	2.0	BT,RT,EBT
Pine Creek	1.8	BT,RT
Owens Lake Area		
Braley Creek	0.5	BT (OP,OTC,OSD**)
Ash Creek	1.0	BT
Section 22 Spring	(0.5 acre)	(OP,OTC,OSD**)
Total	87.3 miles	

\* RT=rainbow trout, BT=brown trout, EBT=eastern brook trout, LT=Lahontan cutthroat trout, LMB= largemouth bass, CC= channel catfish, TS= Tahoe sucker, PS=Plute sculpin, SD= Speckled dace, OSD= Owens speckled dace, OP= Owens pupfish, OTC= Owens tul chub, HTC= hybrid tul chub.

\*\* Potential reintroduction site

**Table 3-5. Vegetation of the Bodie-Coleville EIS Area**

Cover Type	Federal Acres	Private Acres
Nebraska Sedge-wire rush-bluegrass	345	1,080
Nebraska Sedge-wire rush-crested wheatgrass	212	1,314
Mountain big sage-snowberry-Thurber's needle grass	15,381	2,528
Low sage-buckwheat-junegrass	7,247	1,517
Mountain big sage-rabbitbrush-needlegrass	4,617	752
Great Basin big sage-bitterbrush-needlegrass	63,763	14,463
Wyoming big sage-ephedra-Indian ricegrass	2,880	211
Douglas sedge-wire rush-mountain silver sage	810	982
Desert saltgrass-wire rush-rubber rabbitbrush	2,161	2,976
Great Basin big sage-rubber rabbitbrush-Indian ricegrass	56,982	12,393
Single leaf pinyon-Utah juniper-bitterbrush	55,795	10,274
Single leaf pinyon-Utah juniper-mountain mahogany	4,475	1,260
Utah juniper-Great Basin big sage-Indian ricegrass	8,912	3,813
Aspen-Great Basin big sage-mountain brome	1,595	801
Willow-mountain silver sage-sedge	760	345
Jeffrey pine-white fir-aspen	401	191

**Table 3-6. Vegetation of the Benton-Owens Valley EIS**

Habitat Type	Acres
Alkali meadow	5,377
Alkali sink scrub	6,816
Great Basin saltbush scrub	16,752
Shadescale scrub	130,371
Great Basin big sagebrush	81,303
Great Basin big sagebrush-bitterbrush	93,812
Mixed desert shrub	11,584
Blackbrush scrub	25,752
Nevada pinyon-juniper	47,863
Mojave creosote bush scrub	11,988
Subalpine sagebrush	1,260
Alkali marsh	123
Northern juniper woodland	471

**Table 3-7. Ecological Condition of the Bishop Resource Area**

<b>Bodie-Coleville EIS area</b>		
142,678 acres "good"	(63%)	
71,765 acres "fair"	(31%)	
12,625 acres "poor"	(6%)	
<b>Benton-Owens Valley EIS area</b>		
199,730 acres "good"	(37%)	
265,053 acres "fair"	(49%)	
73,449 acres "poor"	(14%)	

Aspen stands located in the Coleville MA are associated with or adjacent to old growth white fir timber stands. These stands receive little impact and provide excellent wildlife habitat conditions and species diversity.

#### *Riparian*

Riparian habitats are those plant communities associated with streams and springs in the resource area. Riparian vegetation communities vary from woodlands composed of a tree overstory (willows, cottonwoods, alders, aspen) with shrub and herbaceous understories, to shrub dominated stream courses, to herbaceous, grass and sedge meadow types. Inventories conducted in 1978/1979 and 1988/1989 identified 146 miles of stream riparian habitat in the resource area. Riparian vegetation and streambank and channel conditions were rated for each stream surveyed. Ratings indicated that 28.3 miles of stream riparian habitat were in excellent condition, 53.25 miles were in good condition, 34.75 miles were in fair condition, and 30.75 miles were in poor condition. Livestock grazing was identified as the primary influence degrading stream riparian habitat conditions. The effects of season-long continuous use, concentrated distributions, heavy forage use, and physical soil and plant damage are primarily responsible for degraded conditions. Plant species composition, vegetative structure, plant biomass production, animal numbers and species richness are also adversely impacted. Other uses which have degraded riparian habitat conditions are



stream diversions (particularly in Owens Valley), road construction and maintenance, recreation use (campgrounds, overnight camping along streams, and spring diversions for hot tubs), and geothermal and locatable mineral exploration and development.

### ***Old Growth Coniferous Forest***

Old growth timber is found within Little Antelope and Slinkard Valleys (7 drainages). Total acreage is about 400 acres. The old growth timber is a grouping of Jeffrey pine, white fir, Douglas fir and lodgepole pine. Aspen and willows are also associated with these coniferous species. These sites are characterized by steep walled drainages with little or no access. These stands have had little or no physical disturbances for over 100 years. Approximately 300 acres are removed from commercial use because of 1) adverse location, 2) fragile areas or 3) problems with reforestation.

The associated riparian/aspen vegetation has also had little or no physical disturbance. These areas are mostly downslope of the old growth stands or are found within openings of the otherwise closed canopy. The old growth/riparian stands found within Little Antelope and Slinkard Valleys are considered to be a unique vegetation community/structure in the eastern Sierra due to the undisturbed nature of these stands.

### ***Bristlecone/Limber Pine***

Approximately 1,500 acres of bristlecone pine (*Pinus longaeva*) and limber pine (*Pinus flexilis*) are found above the 9,000 feet elevation in the south Inyo Mountains. This community of subalpine forest is unique to Bureau lands in the resource area. This vegetation community has had little or no physical disturbance and remains in a natural condition.

### ***Sand Dunes***

Approximately 1,000 acres of sand dune communities exist on the periphery of Owens Lake. Stabilized and partially stabilized dunes provide habitat for the Owens sand dune snout beetle (*Trigonoscuta owensii*). This vegetation community has been slightly degraded where an electrical power line and maintenance road occur along the east side of Owens Lake.

### ***Bitterbrush/Sagebrush***

Over 160,000 acres of bitterbrush and bitterbrush-sagebrush mixed shrub communities occur within the Bishop Resource Area. These vegetative types are important to sage grouse and nearly all big game species inhabiting the east side of the Sierra Nevada and the Great Basin. Mule deer, tule elk, and prong-

horn require these habitats for forage, fawning/calving cover, hiding cover, and thermal cover. Bitterbrush and sagebrush are primary forage plants during the winter while herbaceous understory plants provide important nutritional forage during the spring and summer.

Livestock grazing is the major consumptive activity occurring in this vegetation type. Livestock use in some allotments occurs at the height of the growing season which reduces forage availability, and hiding and thermal cover quality for mule deer, sage grouse, and other wildlife species. The herbaceous understory component of this vegetation type is also utilized by livestock which reduces the sites' carrying capacities for several wildlife species.

### ***Spring Associated Wetlands***

The mesic vegetation around springs is one of the most important habitats on Bureau lands. These areas provide forage and cover to a wide variety of animals while acting as sediment filters around water sources. The vegetative composition and structure of these sites is quite variable, ranging from herbaceous/grass/sedge bogs and meadows to willow or aspen dominated woodlands.

Livestock grazing is the primary influence degrading spring associated wetland habitats in the resource area. The effects of summer-long continuous use, concentrated distributions, heavy forage use, and physical soil and plant damage are primarily responsible for degraded conditions. Recreational use of thermal springs which supply water to meadows also degrades meadow habitat conditions. Roads bisect several meadow/wetland areas causing a reduction in meadow soil stability and direct loss of vegetative cover. Geothermal resource exploration has also degraded ecological conditions on some spring associated wetlands.

### ***Pinyon-Juniper Woodlands***

The pinyon-juniper woodlands cover 108,000 acres of Bureau lands in the resource area. These provide important habitat for mule deer when managed to provide a diversity of tree and shrub age classes and a variety of vegetative cover. Live, dead standing, and down dead trees provide important habitat for a large number of wildlife species.

The quality of vegetation in the understory of pinyon-juniper woodlands is generally not attractive as forage for livestock. Mineral exploration and development, recreational use, and fuelwood harvesting generally cause negligible loss of vegetation when they occur.

### **Threatened and Endangered Plants**

There are no Federally listed plants in the resource area. However, there are sixteen plant species listed as candidates by the U.S. Fish and Wildlife Service. The distributions of many of these species have been documented in the resource area. These species are listed in Appendix 6.

Some sensitive plant habitats are currently being degraded by the effects of summer-long continuous livestock use. In some cases, plant vigor has been reduced and the ability of plants to flower and disperse seed is adversely affected. Other candidate plant areas are being degraded or lost to road maintenance and general recreational use.

### **Minerals**

The Bishop Resource Area and surrounding lands administered by the USFS have experienced several cycles of mineral activity. With increasing environmental regulation and decreasing gold/tungsten prices, the annual number of mining projects has decreased in the region over the past 5 years. Mineral activity has been severely curtailed on USFS lands and on private lands in Mono and Inyo Counties. As in the past, most recent exploration and development has been on BLM lands.

Environmental regulations for mining on adjoining USFS and private lands are likely to become standardized as Federal and State Agencies enter into cooperative agreements for joint permitting of mining projects.

The number of minable mineral deposits in the area is a function of:

- 1) price
- 2) volume of the deposit
- 3) grade of the deposit

The prices for locatable minerals (particularly gold) are likely to fluctuate over the next 10-20 years. Exploration and development will be closely tied to mineral prices and likely occur in the following mining areas:

#### **Benton Management Area:**

Monterey City  
Queen Dicks  
Black Rock  
Kings Mill  
Beckman  
Casa Diablo  
Plute  
Sacramento  
Jeffrey

#### **Bodie Hills Management Area:**

Bodie  
Little Bodie  
Dogtown  
Paramount  
Red Cloud  
Potato Peak

#### **Bridgeport Management Area:**

Dogtown  
Travertine Hot Springs

#### **Granite Mountain Management Area:**

Granite Mountain

#### **Long Valley Management Area:**

Hot Creek  
Big Alkali Lake  
Little Alkali Lake

#### **Owens Valley Management Area:**

Paradise Camp  
Western  
Little Shot  
Jack Rabbit  
Lucky Strike  
Aeroplane  
White Caps  
Yaney  
Bishop  
Ross  
Poleta  
New Era  
Montezuma/Blake  
Green Monster  
Black Jack

#### **Owens Lake Management Area:**

Keeler

#### **Southern Inyo Management Area:**

Burgess  
Bonham  
Cerro Gordo  
Inyo Marble

Most mineral deposits are not economic to mine. Only 3% of the mineral deposits are major (<100,000 tons, net value <\$1 million) ore deposits. Major low-grade deposits are those likely to be developed by open pit

heap leaching methods. Some small (>10,000 ton, net value <\$1 million) high-grade deposits are likely to be developed by underground methods. These small deposits represent 2% of the total mineral deposits in the region.

Approximately 60% of the mineral deposits are sub-economic and 35% are marginally economic. The sub-economic deposits could not be developed under any reasonable price or environmental mitigation structure. Marginally economic deposits are small (>10,000 tons) and very sensitive to changes in mining costs or prices for the commodity. Hence, even minor environmental constraints on their development can render them uneconomic.

### Locatable Minerals

Over the years mineral exploration and development has occurred throughout the resource area. The Golden Gate Mine, located within the West Walker Mining District, along with the majority of mining claims in the Coleville MA, was founded in 1898 and produced an unknown amount of gold. Some claims were located in the Travertine Hot Springs area but this area is not being mined today. Further east, a number of claims have been filed in the Bodie, Paramount Mine, and Dry Lakes Plateau areas - primarily for gold, silver, mercury and sulfur. The Bodie Mining District is currently receiving significant exploration activity, with a plan of operations for a large open pit gold mine and mill site anticipated by BLM. Past exploration activity in the Benton MA is evidenced by the numerous mines prospects and shafts on Bureau land. A number of claims are located along the base of the White Mountains and near Casa Diablo Mountain; known commodities include gold, silver, lead, zinc, copper, mercury, tungsten, garnet, bismuth, serosity, molybdenum and lucite.

In the Owens Valley the majority of mining claims are located in the Tungsten Hills and along the western flank of the Inyo Mountains. Other areas of mineral interest in the southern portion of the resource area include the Poverty Hills, Alabama Hills and Inyo Mountains (200+ claims). Known locatable commodities include gold, silver, lead, zinc, beryllium, copper, barite, feldspar, and tungsten. Precious metal production has been almost entirely from mines in the Mazourka Canyon area. Five plans of operation have been submitted for the south Inyo area. Other locatable commodities of minor importance include limestone, dolomite, and diatomaceous earth. Minor amounts of diatomaceous earth and marble occur near the Poverty Hills.

### Leasable Minerals

Areas with moderate to high potential for geothermal resources are common throughout most of the resource area (Table 3-8). Bureau lands from Topaz Lake to the southern end of Antelope Valley are classified from low to moderate potential for geothermal resources. Approximately 12 temperature gradient holes were drilled by Getty Oil Company in 1983; however very little exploration has occurred since then. Bureau lands in Bridgeport Valley have high potential for geothermal resources; those to the south are moderate potential. The Travertine Hot Springs area east of Bridgeport is presently under a geothermal lease, though no geothermal resource has been developed to date. Bureau lands in the western portion of the Bodie Hills have high potential for geothermal resources, while the remainder of the area is considered to have moderate potential. To date 120 acres are under geothermal lease and approximately 10,000 acres have pending geothermal lease applications.

Geothermal potential in the Granite Mountain MA is relatively unknown, though the area around Benton Hot Springs has been classified as high potential and the Adobe Valley as moderate. No known geothermal exploration has occurred in the Benton MA and no applications to lease have been received by the BLM.

The Long Valley portion of the Mono-Long Valley KGRA has received the most attention in terms of geothermal resources. The northern portion has been the site of geothermal exploration and industry interest since the late 1960s and early 1970s. The Mono-Long Valley KGRA was established in 1970. Exploration in this area resulted in more than 50 exploration drill holes. Three projects have been or are being developed on private and USFS lands just west of Long Valley.

Approximately 20,000 acres in the Owens Valley have been classified as moderate potential for geothermal resources. These resources are located beneath the Volcanic Tableland and Big Pine volcanic field. A small area at the base of the Inyo Mountains is classified as moderate geothermal potential though there are no current exploration or lease applications.

### Salable Minerals

Highway construction in the region has placed greater demands on salable mineral (e.g. sand and gravel) resources. There is also a growing market for dimension stone (Bishop Tuff), pumice, and clay.

**Table 3-8. Mineral Potential on Bureau Lands in the Resource Area**

Management Area	Economic Reserves	Subeconomic Reserves	Potentially Valuable
1. Coleville	Geothermal Sand & Gravel	Building Stone Marble	Barite Cadmium Copper Gold Lead Silver Uranium Vanadium Zinc
2. Bridgeport Valley	Geothermal Sand & Gravel	Travertine	Antimony Gold Mercury Sulphur
3. Bodie Hills	Geothermal Sand & Gravel		Antimony Copper Gold Manganese Mercury Silver Sulphur Zinc
4. Granite Mountain	Geothermal Sand & Gravel	Bishop Tuff Pumice	Copper Gold Lead Mercury Molybdenum Zinc
5. Benton	Geothermal Sand & Gravel	Pumice Bishop Tuff	Bismuth Copper Euclite Garnet Gold Lead Mercury Molybdenum Serosity Silver Tungsten Zinc
6. Long Valley	Geothermal Sand & Gravel		
7. Owens Valley	Geothermal Sand & Gravel	Volcanic Cinders Decorative Rock	Barite Beryllium Copper Feldspar Gold Lead Silver Tungsten Zinc
8. South Inyos	Sand & Gravel	Marble	Copper Gold Lead Silver Zinc
9. Owens Lake	Geothermal Sand & Gravel	Soda Ash	Lead Molybdenum Silver Zinc



There are many sand and gravel pits including 9 community pits in the resource area (see Table 3-9). The greatest demand for sand and gravel is near population centers and along main travel corridors (Highways 395, 168, 6, 120 and 167). Bureau lands are a major source of aggregate for cement and road base for road repair/construction projects. Some sand and gravel deposits occur on USFS and private lands, but most are in alluvial deposits along the foothills of the Sierra and the Inyo Mountains on Bureau lands. Most of these are administered through Free Use Permits to county, state, and non-profit agencies. Demand for sand and gravel is expected to remain constant at about 30,000 cubic yards per year (15,000 cy in sales, 15,000 cy in Free Use permits).

Volcanic cinders are undergoing increasing demand for lightweight aggregate, abrasives, and decorative stone. Although there are currently no cinder pits, interest has been expressed in the cinder cones of the Big Pine volcanic field along the base of the Inyos near Tiemaha Reservoir.

Price fluctuations for salable materials are not likely to be great and there will be a steady increase in prices. By 2010 the average price will probably be \$1.50 per yard. Most salable mineral development will take place within 1/2 mile of existing travel corridors. Demand will be greatest close to population centers.

## Land Ownership and Authorizations

### Withdrawals

There are 600,000 acres of Bureau land in the Resource Area under Congressional or Executive Order Withdrawal. The entire Granite Mountain MA is withdrawn from disposal - the Mono Basin vicinity is withdrawn by the Act of Congress of 1931, and Adobe Valley is withdrawn by EO 5843 and EO 5631. Over half the Bodie Hills MA is withdrawn from disposal by the Act of Congress of 1931 and E.O. 5843. The entire

Owens Valley MA is withdrawn from disposal: mostly by the Act of Congress of 1931, but a few parcels are withdrawn by EO 6206 (both are watershed withdrawals). Existing watershed withdrawals are depicted in Figures 3-8 and 3-9.

### Acquisitions

Acquisitions needed to support recreation and wildlife management programs have been identified in the past. Opportunities to acquire important areas have been identified and some landowners have expressed interest in land exchanges involving private lands near Indian Meadows, Adobe Lake, Black Lake, and Cedar Hill. Recent acquisitions have included Conway Summit (1,200 acres) in 1989.

### Disposals/Community Expansion

The local economy is constrained by lack of land for residential development, community services, and industrial uses.

### Transmission Line Corridors

Within the Bishop Resource Area there are 530 miles of transmission lines 115 kv and above. (See the north and south halves of the Lands and Minerals, Alternative 1 map.)

#### *±500 kv DC Pacific Intertie*

This direct current line brings power from the Columbia River to Southern California. It crosses the state line and enters the resource area about four miles south of the State Highway 167 and exits near Olancha.

Within the resource area it crosses 60 miles of Bureau land, 15 miles of USFS land, and 78 miles of private land most of which is owned by LADWP.

Facilities consist of lattice towers supported by guide wires with every 10th tower free standing. Areas along this line where it may be particularly difficult to add more lines include:

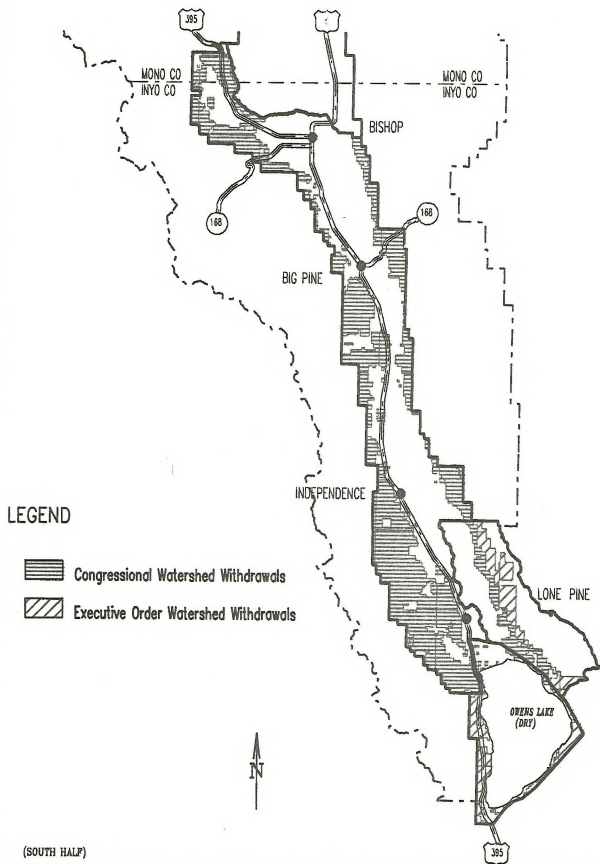
- 1) Near Old Benton where residences exist near the line and there is interest in expanding the Benton Indian Reservation.
- 2) The Volcanic Tableland in the vicinity of WSAs 079, 080, and 082.
- 3) Near Olancha where there is little room between Owens Lake and the steep slopes of the Sierra.

**Table 3-9. Salable Mineral Pits in Each Management Area**

Management Area	Number	Pit Type
Owens Valley	6	sand & gravel (S&G)
South Inyo	6	road fill, S&G
Long Valley	8	road fill, S&G
Benton	?	S&G, pumice
Granite Mountain	?	S&G, pumice





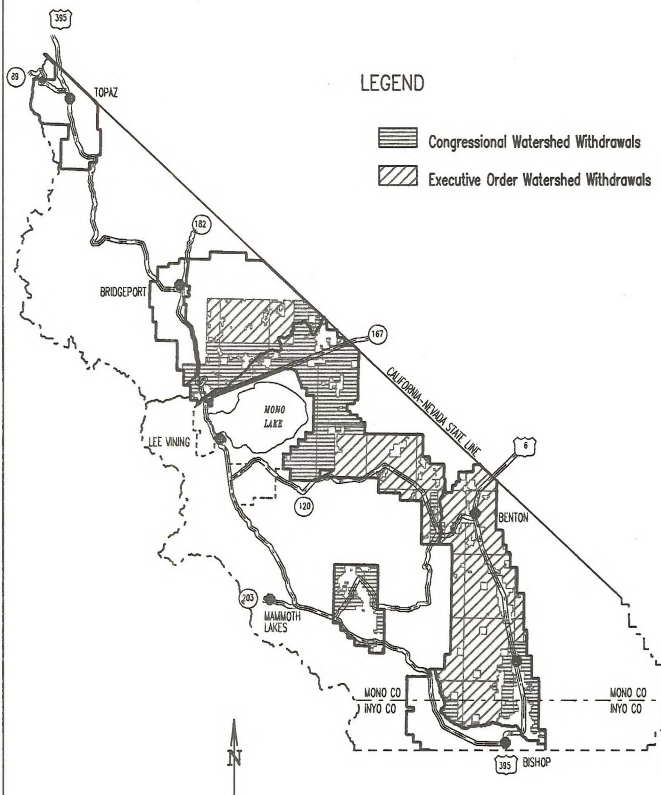
# EXISTING WATERSHED WITHDRAWALS



# EXISTING WATERSHED WITHDRAWALS

## LEGEND

-  Congressional Watershed Withdrawals
-  Executive Order Watershed Withdrawals



(NORTH HALF)

### **230 kv LADWP Owens - Rinaldi Line**

This line goes from LADWP's power plants on the Owens River to the Bishop Substation then south where it exits the resource area near Olancho. Southward from Bishop it parallels the Intertie on its east side.

Within the resource area it crosses 29 miles of Bureau land, 3 miles of USFS land, and 72 miles of private land most of which is owned by LADWP.

Facilities consist of self-supporting single circuit steel lattice towers with three conductors. For areas where it may be particularly difficult to add more lines, see the discussion under the Intertie, above.

### **SCE 115 kv Double Circuit Line**

This line brings power from the Bishop Substation to the Los Angeles area exiting the resource area near Olancho. It only partially parallels the two lines described above.

Within the resource area it crosses 17 miles of Bureau land and 63 miles of private land most of which is owned by LADWP.

Facilities consist of self-supporting steel lattice towers with six conductors. The towers average about 660 feet apart.

Right-of-way width on Bureau land is 80 feet (Case File # CA 21596).

Areas along this line where it may be particularly difficult to add more lines occur near Olancho where there is little room between Owens lake and the steep mountain slopes.

### **115 kv SCE Bishop - Lee Vining Line**

This line goes from Bishop to Mammoth Lakes and connects with lines from power plants on Lee Vining Creek and Rush Creek. It generally follows U.S. Highway 395.

The line is entirely within the resource area. It crosses 15 miles of Bureau land, 42 miles of USFS land, and 21 miles of private land.

Facilities consist of wooden H-frame structures with three conductors and suspension type installation. The structures average 450-500 feet apart. Right-of-way width on Bureau and USFS lands is 80 feet.

The areas along this line where it may be particularly difficult to add more lines include:

- 1) Where it parallels U.S. Highway 395. Additional visual impacts are of great concern.
- 2) Near Crowley Lake Campground visual impacts would be a particular concern.
- 3) Areas prone to snowslides and landslides.

### **115 kv SCE Auxiliary Line to Mammoth Lakes**

This line follows the Intertie north from Bishop and then loops west around Long Valley to the Casa Diablo Substation near Mammoth Lakes.

The line is entirely within the resource area. It crosses 18 miles of Bureau land, 28 miles of USFS land, and 5 miles of private land.

The facilities of this line are essentially the same as those described for the 115 kv SCE Bishop - Lee Vining Line.

Right-of-way width on both USFS and Bureau land is 75 feet. (BLM Case File # CA 55708).

Areas along this line where it may be particularly difficult to add more lines include:

- 1) The Volcanic Tableland in the vicinity of WSAs 079, 080, and 082.

### **230 kv Oxbow Line**

This line parallels the Intertie from the state line to SCE's Bishop Substation.

Within the resource area it crosses 46 miles of Bureau land, 13 miles of USFS land, and 6 miles of private land.

Facilities consist of wooden H-frame structures similar to but somewhat taller and wider than those described from the SCE line, above. The distance between structures averages about 700-800 feet. Where the line passes between and along WSAs 079, 080, and 082 in the Volcanic Tableland area it is "piggybacked" on steel lattice structures especially constructed to allow the additional line through the narrow right-of-way.

Areas along this line where it may be particularly difficult to add more lines include areas 1 and 2 listed for the Intertie, above.

## Livestock Grazing

Livestock grazing occurs on 69 allotments in the Bishop Resource Area with an annual licensing of 35,261 Animal Unit Months (AUMs). Grazing allotments are licensed for cattle, sheep, or horses with various seasons of use, livestock numbers, and grazing management systems. Each allotment has been classified into three categories of management priority: "I" allotments are designated to be "improved" through more intensive use supervision, monitoring, and range improvement practices; "M" allotments are designated for "maintenance" management with a lower intensity of use supervision, monitoring and range improvements; "C" allotments are managed in a "custodial" manner with only minimal grazing management supervision. Appendix 5 displays such allotment information as AUM preference, class of livestock, season of use, management category and management system (if applicable).

Livestock grazing practices and range improvements have had a substantial influence on many vegetative resources in the resource area. Ecological condition of the vegetative communities can generally be attributed to past and present livestock use; development or revision of 10 AMPs and construction of new range improvements have improved livestock distribution causing a subsequent improvement in ecological vegetation condition and wildlife habitat. While many upland habitats are in good to fair ecological condition, many stream/riparian zones, springs, wetlands, and aspen groves are in unsatisfactory condition due to heavy livestock grazing and trampling. In some aspen and riparian areas, a poor understory condition exists due to continual grazing and bedding by sheep and/or cattle. Certain areas receive heavy utilization year after year resulting in lowered plant vigor, reduced vegetative cover, soil compaction, and a decline in wildlife habitat quality.

## Cultural and Paleontological Resources

This management program as administered by the BLM covers paleontological resources and cultural resources.

Paleontological resources are the fossil remains of plants and vertebrate and invertebrate animals, or traces and tracks thereof, that lived in former geologic periods. They may be found in a great many different geological formations. In the Bishop Resource Area, fossils are commonly found in Pennsylvania limestone and paleozoic rock formations. There are numerous limestone formations, including Antelope Valley, west and north of Mono Lake, and the east side of the

Owens Valley in the Inyo Mountains. Many, if not most, of these formations have been metamorphosed through volcanic activity, and the fossils, which are all invertebrates, are almost unrecognizable. There are some invertebrate marine fossils in the Deep Springs formation in the Mazourka Canyon area, but these are not significant. The Waucoba Wash area east of Big Pine is a remnant continental lake and has the best potential for vertebrate fossils, but research to date has not located any.

Cultural resources is a broad, general term which may refer to cultural properties, or to any traditional lifeway value of an identified social or cultural group.

Cultural properties are those fragile and non-renewable remains of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were important in human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred, even though evidence of the event no longer remains, and (3) the environment immediately surrounding the actual resource. Cultural properties, including both prehistoric and historic remains, represent a part of the continuum of events from the earliest evidences of man to the present.

Prehistoric occupation of the Bishop Resource Area appears to have been widely distributed, although tending to concentrate around certain resources. Sites include lithic scatters, small pinyon camps, other temporary camps, village sites and rock art sites (most notably petroglyphs); and common activities were pinyon nut gathering, hunting, procurement of plant foods, and quarrying obsidian. Site types and distribution show seasonal and yearlong occupation of many areas for several thousand years.

Historic cultural properties are mostly associated with mining and early settlement activities throughout the resource area. Prospects, mines and mine workings are associated with areas of mineralization, as are some towns. Other historic structures and sites are associated with existing towns, ranches, and abandoned homesteads. Many historic sites are in private ownership. The most notable site in the eastern Sierra is Bodie State Park and the surrounding Bodie Bowl area which is designated as a National Historic Landmark (one of only two on Bureau lands in California). Another notable site is the Saline Valley Salt Tram which starts near Swansea, and used to traverse the south Inyo Mountains.

There are 5 sites (both historic and prehistoric) on the National Register of Historic Places within the resource



area. Two of these are on Bureau lands. There are a large number of sites which have not been formally evaluated or nominated to the Register, but may be eligible.

The greatest danger to the protection of historic and prehistoric sites in the resource area is from individuals who collect artifacts and dig at the sites or otherwise alter them, removing material and destroying site integrity. Protective efforts have been limited by funding and manpower. A single Ranger patrols the entire resource area and routinely checks highly visible properties. Some sites are posted with signs, although none of the sites are interpreted to the public explaining their cultural, aesthetic or scientific values.

A data retrieval program has been underway for the past couple of years through a cooperative/volunteer agreement with an archeological research firm. They have done data recovery projects on the Volcanic Tableland within the Benton MA at sites which have been vandalized and are in danger of destruction.

The Bureau complies with provisions of Section 106 of the Historic Preservation Act for all proposed actions which may affect cultural resource properties. Inventories are completed, the properties are assessed, and decisions made in consultation with the State Historic Preservation Officer and the National Advisory Council as necessary.

Traditional lifeway values have the quality of being useful in or important to the maintenance of a specified social and/or cultural group's traditional systems of (a) religious belief, (b) cultural practice, or (c) social interaction, and need not be closely identified with definite locations. Such a group's shared values are usually abstract, nonmaterial, ascribed ideas that one cannot know about without being told.

Indians of the local Paiute/Shoshonean communities have expressed concerns about: impacts and continued accessibility to pinyon nut harvesting areas; protection/disturbance of archeological sites; protection of burial grounds; testing and reburial of human remains; protection, use and access to hot springs and other sacred areas; and acquisition of Bureau land for expansion of current reservations.

Efforts are made to consult with local Indian communities whenever a project or action might affect them. Their needs and concerns are considered in the decision-making process whenever they are voiced.

## Individual Management Areas

### Coleville

The Coleville MA is the northernmost in the resource area and includes 21,560 acres of Bureau land. The management area is surrounded USFS land (see Figure 3-10). The area is considered to have high scenic quality offering contrasts between narrow valleys and tall, rugged mountain ranges. Bureau lands comprise sensitive scenic viewsheds in foreground, middleground, and background zones particularly along the west side of U.S. Highway 395 and in Slinkard and Little Antelope Valleys. The Bureau land on the west side of Slinkard Valley and along the west side of Little Antelope Valley contains a unique and highly diverse assemblage of vegetation and wildlife species concentrated in areas that remain essentially unaltered.

The aquatic habitat of the management area provides for much of the diversity in wildlife species. There are a total of 7.75 miles of perennial streams and 1.25 miles of intermittent stream divided among 10 streams. All of the stream miles occur west of Highway 395. The streams with recreational trout fisheries are Slinkard, Mill, and Lost Cannon Creeks. Two streams also provide habitat for populations of mountain beaver. The riparian vegetation associated with the streams, springs and wet meadows is generally in good to excellent condition. Topaz Lake provides good habitat condition for bald eagles, Canada geese and several species of duck.

All Bureau land in the Coleville MA comprises an overlapping migration corridor, holding area, and winter range for the West Walker mule deer herd (see Figure 3-3). Approximately 3,000 mule deer use habitat areas in Slinkard, Little Antelope and Antelope Valleys depending on weather conditions and the nutritional quality of local key forage species.

Loss of mule deer range has occurred due to the location of a landfill, an R&P lease for private development, road construction and approximately 8 mineral materials pits along the east side of Antelope Valley. Other portions of the winter range along the west side of Antelope Valley have been eliminated by road construction, residential development and additional mineral material pits. Some impacts to mule deer habitat, either through road proliferation or physical displacement of deer in winter, is occurring from off highway vehicle use on the east side of Antelope Valley. Extensive off road vehicle use is occurring



along the south shore of Topaz Lake and has caused some physical alteration of the terrain in the wintering area used by Canada geese.

The Coleville MA provides a wide variety of dispersed recreation opportunities on Bureau lands. The quality of recreation opportunities is good to excellent because of the relatively low use and the diversity of opportunities and activities. Recreation use, overall, tends to be of a dispersed nature with hunting, fishing, camping and sightseeing being the most popular, particularly in the Slinkard Valley area. Use tends to be higher and concentrated in the Topaz Lake area where the Bureau has some isolated shoreline parcels. Water skiing, fishing, boating and camping are popular in this area. It is estimated that 5,000 visitors per year use the Topaz Lake area. Fishing opportunities are presently at 65% of potential in area creeks.

Hunting, as a dispersed activity, occurs throughout the management area. A wide range of opportunities exists for the avid sportsman, including deer, chukar, quail, waterfowl, and rabbit. Hunters are generally from the local area. Slinkard Valley is one of the more popular use areas. Over 100 visitors per year use Slinkard Valley for mountain biking, camping and wildlife observation purposes. Approximately 200 deer hunters per year use the entire management area. Other use areas include Little Antelope Valley and waterfowl hunting south of Topaz Lake. Approximately 100 waterfowl hunters per year use the Topaz Lake area.

OHV use is a problem in Antelope Valley. Some residents have expressed concern about OHV use near their homes.

Livestock use is by cattle or sheep within this management area. Livestock use has been lowered to a point where 50% of the Bureau land is not grazed by livestock (10,815 acres). East Antelope Valley is used only to trail cattle and sheep. Although cattle and sheep graze within Slinkard Valley, the majority of cattle use occurs on CDF&G land.

There is high and moderate potential for locatable minerals near the Golden Gate mining district and west Slinkard Valley.

There is high potential for salable mineral deposits within 1/2 mile of highway 395 from alluvial deposits.

## Bridgeport Valley

This management area lies west of the Bodie Hills and extends from Mono City north over Conway Summit to

Bridgeport Reservoir. It includes 13,054 acres of Bureau land (see Figure 3-11). The community of Bridgeport depends on Bureau land for a variety of uses including a community material pit, a sanitary landfill, and various rights-of-way. Bureau land also serves as a recreation resource at such diverse sites as the Bridgeport Marina, Conway Summit and Traverline Hot Springs.

Scenic values near Conway Summit area are especially appealing. Bureau land west of U.S. Highway 395 provides vivid landscapes to complement USFS mountain backdrops. Recently Bureau acquisitions were made to preclude private development impacts.

Fishing and associated camping are quite popular throughout the management area. Of popular interest are Bridgeport Reservoir and Dog, Virginia, and Green Creeks. Fishing opportunities on area creeks are presently at 50% of their potential. There are five miles of Bureau lands along the reservoir concentrated along the east shore near the Bridgeport Marina. Located on Bureau land, the marina is a cooperative effort initiated in 1970 between Mono County, the Bureau and the California Wildlife Conservation Board. Fishing on the lake is popular. Water skiing and windsurfing opportunities occur as well. Facilities at the marina include a boat ramp, fish cleaning table, numerous picnic tables and restrooms.

Additionally, Dog, Green and Virginia Creeks are popular for fishing, camping and as a staging area for other recreation activities such as hunting. Close to U.S. Highway 395, the creeks comprise an attractive stream complex for recreationists. Virginia and Green Creeks are accessible by dirt road and, over the years, have had primitive campsites developed in the riparian area. It is estimated that 4,000 visitors per year utilize the Virginia Creek area.

Another popular recreation use area is Dogtown. This was the site of the first major gold rush along the eastern Sierra. Located just west of U.S. Highway 395, the site is situated on Virginia Creek just downstream from the confluence of Dog and Virginia Creeks. Some dispersed camping and fishing occur on the creek. Some opportunities for recreation gold panning exist along the creek.

Winter use activities are concentrated around the Conway Summit, Virginia Creek and Green Creek areas. A variety of winter recreation opportunities include snowmobiling, cross-country skiing and snow tubing. Some snowcat touring has also occurred around Conway Summit. On a winter weekend, numerous snowmobiles and skiers stage along Virginia Lakes Road near U.S. Highway 395. Many of these

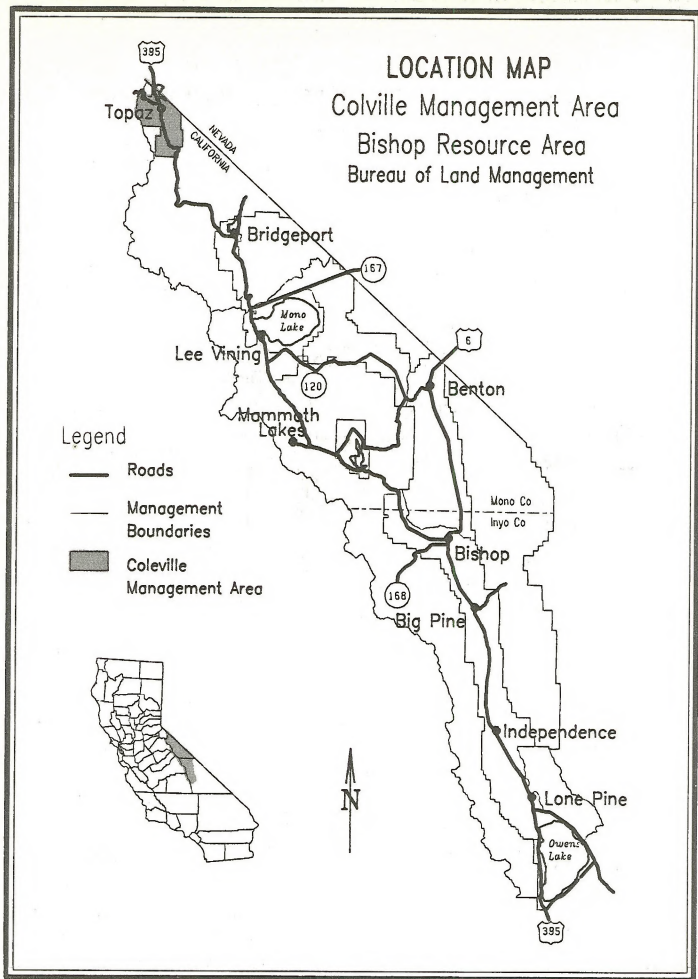


Figure 3-10

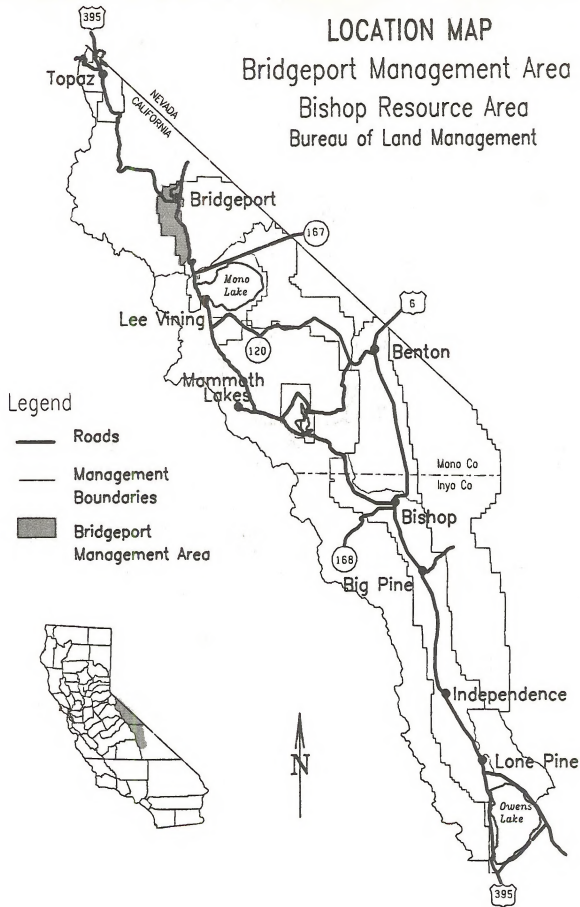


Figure 3-11

recreationists use nearby Bureau lands for their recreation activities. There have been complaints about trash, debris, and noise associated with the recreation uses in this area. In the past, there have been numerous requests for commercial ski touring permits for the area. Approximately 2,500 recreationists per year use the area during winter. Finally, a local snowmobile club, the Bodie Bogies, uses the area frequently. Some additional opportunities for snowmobiling and cross-country skiing exist in the Green Creek area. Cross-country skiing information on the area can be found in ski-tour guide books.

Approximately 100 deer hunters use the management area.

Mainly brown trout are taken from Dog and Virginia Creeks while rainbow trout are important to the fishery on Green Creek. The brown trout populations are naturally reproducing year to year while rainbow trout are planted several times annually in Green and Virginia Creeks. Quality of the aquatic and riparian habitat for Virginia Creek ranges from good to excellent condition from the USFS boundary downstream for approximately 5 miles and is in fair to poor condition for the remaining 3 miles. Water diversion into the Conway Ditch for private land irrigation has had negative impacts on aquatic species downstream in Virginia Creek. Aquatic and riparian habitat conditions are generally good along Dog and Dunderberg Creeks, except in some sites along Dog Creek. The aquatic condition of Green Creek is generally good for approximately 1 mile downstream of Dynamo Pond but is in poor condition for the approximately 0.75 mile remaining on Bureau land.

Habitat for four sensitive species occur in the management area. Actions involving geothermal resource exploration, water diversion, road construction, livestock grazing and some recreational use has caused a loss or adverse effect to habitat for one or more of the species.

Livestock use is by cattle or sheep with the majority of sheep use within the Green Creek and Dog Creek Allotments. Both allotments have had a substantial positive change in grazing management practices (one implemented AMP) in order to improve range condition and wildlife habitat. Livestock were excluded from 480 acres of Bureau land surrounding Travertine Hot Springs. Bureau land immediately adjacent to Bridgeport Reservoir's east shore has no grazing.

Most of the aspen groves and riparian zones occur in the Dog and Green Creek grazing allotments. Sheep grazing occurs in some of the aspen groves and

riparian vegetation areas. Some streambank sloughing due to sheep trampling is apparent. Certain areas receive heavy utilization year after year resulting in lowered plant vigor, reduced vegetative cover, soil compaction, and a decline in wildlife habitat quality.

The area serves as a holding area and migration corridor for approximately 2,500 mule deer from the East Walker and Mono Lake deer herds. The amount and nutritional quality of the sagebrush/bitterbrush association is extremely important to mule deer as they move through the migration corridors to winter range in Nevada. Summer range and fawning habitat requirements for approximately 50 mule deer are met in several locations of the management area. Riparian vegetation found along the four perennial streams, aspen groves, meadows and some limited areas of dense sagebrush/bitterbrush vegetation each offer one or more habitat attributes such as foraging area, fawning site, fawn rearing area, and hiding/thermal cover. Loss or degradation of mule deer range has occurred due to the location of salable mineral pits, road construction, and recreational use.

Approximately 150 sage grouse use the management area for all or portions of their life cycle. Loss or degradation of sage grouse habitat has occurred primarily for those reasons given for mule deer, above.

Habitat for four sensitive species occur in the management area. Actions involving geothermal resource exploration, water diversion, road construction, livestock grazing and some recreational use have caused a loss or adverse effect to habitat for one or more of the species.

There is high potential for sand and gravel deposits in alluvial formations within 1/2 mile of Highways 395 and 182. The northern half of the management area has high potential for geothermal resources. The remainder of the management area has moderate potential. The Travertine Hot Springs area east of Bridgeport is presently under a geothermal lease. Two production wells and an injection well have been drilled under an approved plan of operations for a district heating system to supply the town of Bridgeport. This project has been stalled for the past 2 years. There is also split estate land (private surface, federal minerals) in the Big-Hot Spring area 2 miles south of Bridgeport. Exploration, leasing and development activities could be expected to increase with increasing oil prices.

There is high and moderate locatable mineral potential near the Dogtown mining district.



## Bodie Hills

This management area, located north of Mono Basin and to the east of Highway 395, includes 121,150 acres of Bureau land (see Figure 3-12). Most of the area is rolling, mountainous terrain bisected by large drainages. Located near the center of the management area is Bodie State Park. The park is a unique representation of a mid-19th century western mining town that has been preserved in a state of arrested decay.

Historically, Bureau land in the Bodie Hills has been used for livestock grazing and mining. The lure of mineral deposits as well as the area's grazing activities contributed to the establishment of an extensive road system. More recently, recreation use, especially hunting, has led to route extension and proliferation. In many cases, these uses have contributed to the deterioration of riparian areas and other wildlife habitat.

Livestock use is by cattle or sheep in 11 allotments. Six allotments have developed AMPs and two have grazing stipulations. Due to needed range improvement projects for the AMPs, six allotments are considered partially implemented. A main emphasis of grazing management is to improve wildlife habitat. The allotments were combined with the existing Rancheria Gulch with a substantial reduction in permitted AUMs (23%).

Livestock grazing has adversely effected riparian and aquatic streams habitat and the overall watershed condition. Of the approximately 85 miles of streams, about half are in poor condition. Erosion caused by livestock overutilization of vegetation has created mild to severe gullying in many streams. This has eliminated hiding cover, reproductive habitat, and food resources for fish and wildlife species in riparian and aquatic habitats. Grazing has also raised water temperatures, increased runoff, and reduced water storage within the streams' channel. In some cases, individual sections of entire streams no longer support fish populations.

Road construction and maintenance have caused erosion and sedimentation of many streams and their tributaries, thus affecting stream channel competence. Stream bank sloughing and sedimentation of the stream channel have resulted where the road was built near the stream, as in Aurora Canyon and Clearwater Canyon, or where road crossings have not been designed to accommodate high flows, as in Bridgeport Canyon. Vehicle routes bisecting streams occur at several sites; however, there is currently little adverse impact to channels and riparian vegetation. The

greatest impact on stream channel condition has occurred where vehicles have been driven along streambeds.

No damage is occurring to the streams from current mining activity; however, past mining has had a severe impact, particularly in Rattlesnake Gulch and Bodie Creek. Water diversion, stream channelization, elimination of riparian vegetation and use as a tailings dump destroyed a large stretch of Bodie Creek, and to a lesser extent, Rattlesnake Gulch.

The entire management area serves as a migration corridor, holding area, and summer and fawning habitat for a portion of the East Walker and Mono Lake deer herds. A combined total of 800 to 1,000 mule deer inhabit the area during the spring and summer. The nutritional quality of the sagebrush/bitterbrush vegetation association is important to resident and migratory deer. Dense stands of sagebrush and bitterbrush and riparian vegetation along streams, aspen groves, and meadows provide crucial habitat attributes such as foraging areas, fawning sites, fawn rearing areas and thermal/hiding cover.

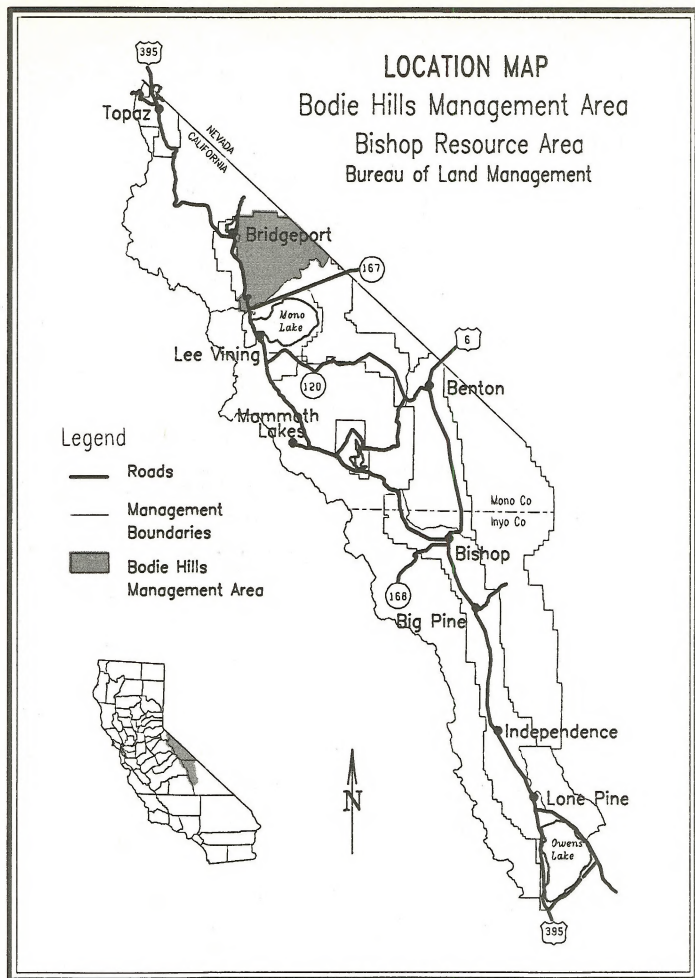
Aspen groves are generally located in the northern two-thirds of the management area. Approximately 125 individual grove complexes provide 1,351 acres (69% on BLM) of potentially diverse habitat. A large diversity of wildlife species depend on these areas during their life cycles.

Conditions of aspen groves and meadows are also degraded by the effects of livestock grazing. Intensive livestock use of aspen stands and meadows directly affects the ability of many wildlife species to successfully reproduce. Mule deer and sage grouse are species most directly affected.

The management area also provides a diversity of dispersed recreation opportunities on Bureau land. Unlike the site intensive use at Bodie State Park, surrounding Bureau lands provide physical settings to experience extensive freedom of movement as well as an unconfined sense of solitude. Located in the center of the management area, the park influences recreation use that occur on Bureau land. The most popular activities include sightseeing, hunting, mountain biking, primitive camping and OHV use. Many recreationists conduct their activities in some association with a park visit.

Additionally, the Mono Basin National Forest Scenic Area is a focal point for recreation use and visual resource management. The south edge of the Bodie Hills serves as a visual backdrop for the Scenic Area. Moreover, motorized travel between Bodie State Park





and the Scenic Area generally requires passage on roads through Bureau land. Visual resource management of these "travel corridors" in their natural state has become increasingly important as visitation at Bodie and the Scenic Area has increased over the last several years.

Over the last several years, mining companies have conducted exploratory drilling immediately adjacent to Bodie State Park, particularly in the Bodie Bowl area. There has been some expressed interest in recovering mineral deposits located on private land. Some Bureau land may be used for mining or associated support activities as well. As a result, controversy regarding the compatibility of these potential operations with existing park management has developed, generating public concern at local, state and national levels.

There are five sensitive plant species within the management area; *Astragalus johannis howellii* (DFG listed R), *Cusickiella Quadricostata* (USFWS Category 2), *Eriogonum ampullaceum* (USFWS Category 2), *Phacelia monoensis* (USFWS Category 2), *Streptanthus oliganthus* (USFWS Category 2). There are extensive populations of Cuqu throughout the Bodie Hills and a large population of Astoh and Cuqu on dry lake plateau. Livestock, wildlife, recreation, and mineral development are impacting these species. Population trends are stable.

There is high potential for salable mineral deposits from alluvial deposits within 1/2 mile of Highways 167 and 395.

There is high and moderate potential for locatable mineral deposits near the Bodie, Little Bodie, Dogtown, Paramount, Red Cloud and Potato Peak mining districts.

## Granite Mountain

This management area consists of 160,490 acres of Bureau land stretching from near the community of Benton at the eastern boundary to the Mono Basin National Forest Scenic Area in the west (see Figure 3-13). Bureau land near Mono Lake was transferred to the Inyo National Forest in 1984 with the establishment of the Scenic Area. The Bureau lands bounding the Scenic Area encompass much of the viewshed of the Mono Basin.

Bureau land serves as a backdrop for Scenic Area visitors and includes the south Bodie Hills, east Mono Basin and Cowtrack Mountain. Visual resource management along travel corridors to the Scenic Area

and Bodie State Park has become increasingly important as visitation has increased over the last several years. The quality of recreation opportunities is high for users who seek spacious sage covered basins encircled by stark, pinyon covered hills.

The most popular recreation activities include off-highway vehicle touring and hunting. Permitted recreation use events as well as casual riders utilize the several route systems in the management area. The Sierra Safari, an annual motorcycle poker rally accounts for 300 visits per year. Hunting opportunities are varied through the management area with game including deer, dove and waterfowl. Deer hunters average about 30 per year, while 800 acres of waterfowl habitat attract local hunters. Overall, about 1,600 visitors use the management area.

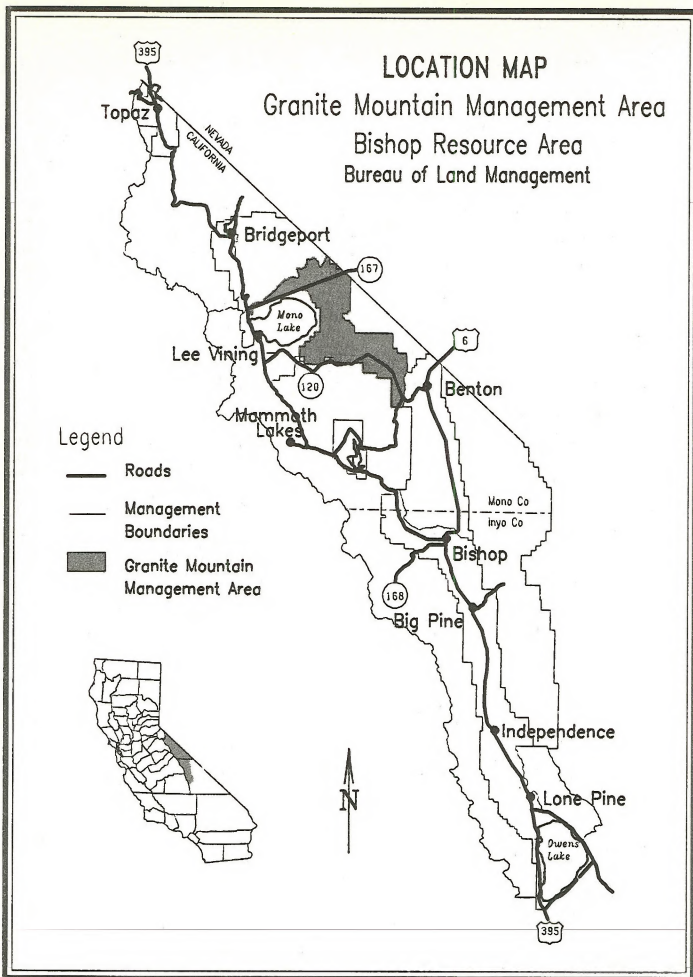
Waterfowl occur in large numbers in the management area during normal to favorable years. Larkin Lake, Adobe Lake and Antelope Lake are ephemeral and maintain several thousand ducks and geese.

The area serves as a migration corridor for approximately 500-1000 mule deer of the Mono Lake deer herd. A small portion of the herd use the eastern edge of the area as winter range. Approximately 1,000 mule deer of the Casa Diablo deer herd migrate across the area to winter in the Benton Range. Small groups of pronghorn use both Mono Basin and Adobe Valley during the summer. The pronghorn population for each area is less than 20 animals.

Sage grouse are sparsely but widely distributed over the management area and number no more than 140 birds. Dove is the most abundant upland game species in the area. Quail are fairly abundant, however, their range is limited to the Black Lake area, farms and other permanent water sources.

The condition of some vegetation types particularly the shrub community, meadows and riparian vegetation are degraded from livestock grazing. The herbaceous components of shrub communities, which is important as forage to many wildlife species, is subject to summer long grazing. The intensive livestock use of these vegetation types reduces or eliminates, in some locations, the ability of many wildlife species to successfully reproduce. Sage grouse and pronghorn are the species most directly affected.

Birds of prey, including kestrel, various species of hawk and golden eagle use habitat in Mono Basin, the conifer zone and rocky escarpments of Granite Mountain, and the main ridge of the Benton Range. Raptor concentration is high.



Four sensitive plants exist in the management area. A large population of *Astragalus monoensis* (USFWS Category 1; CDF&G Rare) and *Lupinus Duranii* (USFWS Category 2) is located in Big Sand Flat. *Calochortus excavatus* (USFWS Category 2) is located at Black Lake with potential habitat between River Springs and Antelope Lake. *Eriogonum ampullaceum* (USFWS Category 2) is found in 5 locations within Adobe Valley. Livestock and wildlife are impacting Asmo and Ludu. Livestock, wildlife, and wild horses are impacting Carx and Eram. Population trends are static.

Road maintenance and livestock grazing have adversely affected sensitive plant habitat.

The geothermal potential of the management area is unknown. However, much of Mono Basin is included in the Mono-Long Valley Known Geothermal Resource Area (KGRA). KGRAs are secretarial (Interior) designations intended to ensure maximum royalty and income to the government through competitive leasing of lands with high geothermal potential.

Livestock use is by cattle or sheep within eight grazing allotments. Two allotments have implemented AMPs, one was designed to improve wildlife habitat. Wild horses impact six of these allotments.

## Long Valley

This management area consists of 17,457 acres of Bureau land around Crowley Lake (see Figure 3-14). The lake itself and land immediately adjacent to the lake are managed by LADWP. Nearby communities include Mammoth Lakes and Crowley Lake.

The management area provides a variety of dispersed recreation opportunities on Bureau lands. Some intensive recreation site developments also exist. The quality of recreation opportunities is considered good because of activity diversity and low overall use.

Crowley Lake Campground, a developed recreation site, is located west of U.S. Highway 395. It is extremely popular between the fishing season opener and Memorial Day weekend. The use season ranges from mid-April to August. Visitors total 2,500/year. Most visits are associated with fishing and general leisure.

Hot spring/tub use is quite popular. The 7-8 hot tubs in the area are used by locals and out-of-area users. Many have been developed without authorization; several are causing environmental impacts such as wetland damage, route proliferation, and impairment of

sensitive species habitats. Approximately 5,000 visitors/year use the hot springs on Bureau lands.

Dispersed camping is associated with fishing, hot spring/tub use, mountain biking and other similar uses. Camping is popular at Benton Crossing because of its scenic, fishing, and wildlife values. Hot Creek receives some use also (500 visitors per year).

OHV use is considered low and terrain limited. However, the Doe Ridge and hot springs areas receive OHV use. A low amount of snowmobiling occurs in Long Valley. Erratic snowfall limits these opportunities. Snowmobiling use is limited to designated roads and trails north and west of Crowley Lake to protect sage grouse habitat.

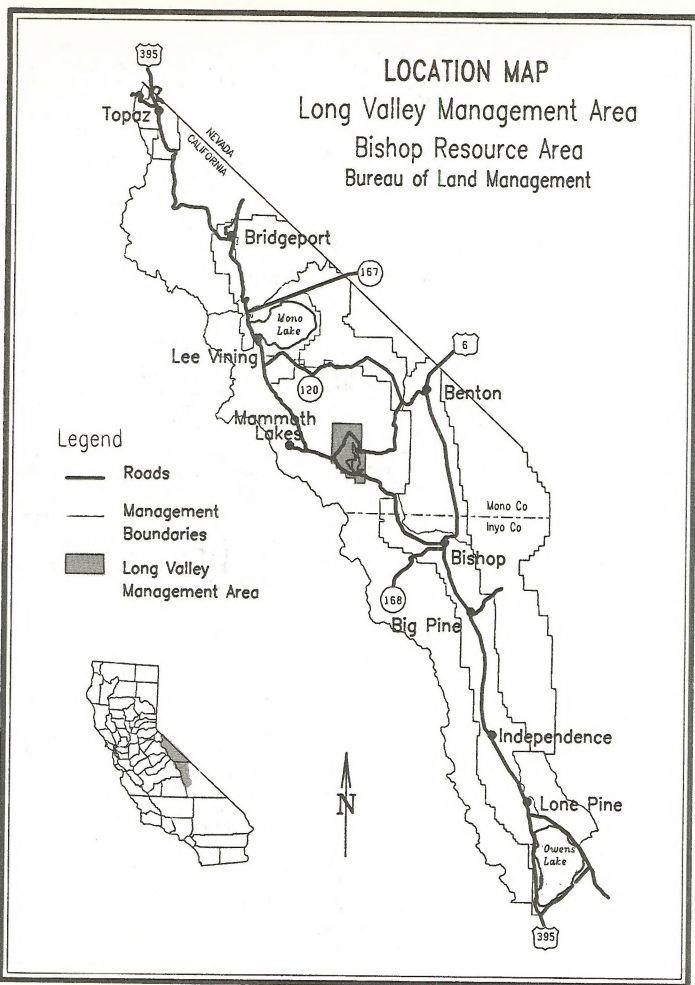
Windsurfing occurs at the Alkali ponds immediately north of Crowley Lake. Most users come from the Mammoth Lakes area although articles describing the location can be found in windsurfing magazines. Visitor use totals 600 per year.

Wildlife observation and hunting opportunities are also available in the management area. Sage grouse, mule deer, and waterfowl hunting are the most popular. Sage grouse hunters total 250 per year, while deer hunters are estimated at 275 per year. No information is available on waterfowl hunters. Additionally, sage grouse strutting and mule deer observations occur. Most visitors are local. During sage grouse strutting periods, approximately 75-80 visitors/year observe the birds' activities. Approximately 150 visitors/year observe mule deer, while 25 visitors/year observe pronghorn.

Mountain bike use has grown in the management area. The area has numerous roads of limited challenge. Most are easy touring routes. Use occurs in late spring and the fall. Popular loops are in the Hot Creek and Little Hot Creek areas. Often, use is associated with hot spring/tub use. It is expected that this use will grow. There is some demand for more trail riding opportunities. Presently, 1,500 visitors/year use Bureau lands for mountain biking. Bike touring on paved roads has also increased. The U.S. Highway 395/Crowley Lake Drive and the Benton Crossing circuits are popular rides.

There are three sensitive plant species within the management area; *Astragalus johannis howellii* (DFG listed R), *Astragalus monoensis* (DFG listed E, USFWS Category 2) and *Eriogonum ampullaceum* (USFWS Category 2). There are extensive populations of Aston north and northwest of Crowley Lake. Livestock, wildlife, recreation and mineral development are impacting these species. Population trends are static.







Featured wildlife species include sage grouse, mule deer and several animals associated with aquatic habitats. Sage grouse have been characterized as an indicator species of the overall biological health of the area as in the Bodie Hills and Bridgeport MAs. Approximately 990 sage grouse occupy Bureau and adjacent lands in Long Valley. Bureau lands supply the essential characteristics for the four sage grouse habitat types: strutting grounds, nesting, brooding, and winter habitat.

Two mule deer herds migrate twice a year through the area. A component of the Round Valley herd, numbering up to 3000 mule deer, traverses a narrow band of land west of Highway 395 twice a year and a component of the Casa Diablo herd (approximately 500-1000 animals) moves through the northwest corner of the management area.

Condition of some vegetation types, particularly the sagebrush-bitterbrush and the attendant understory vegetation and meadows, are degraded by the affects of livestock grazing. The herbaceous component of the shrub community, which is important to many wildlife species, is subject to season-long continuous grazing. Intensive livestock use of these vegetation types reduces or eliminates, in some locations, the ability to many wildlife species to successfully reproduce. Sage grouse, waterfowl and aquatic dependent species associated with springs, streams and meadows are the species most directly affected. Mineral material pits and extensive road systems, particularly on Doe Ridge, have caused direct loss of habitat or a decrease in habitat quality for resident deer (less than 50 animals).

Aquatic species of importance include a hybrid form of the endangered Owens tui chub and the candidate Travertine diving beetle. Other species of management concern include the Owens speckled dace and the Great Basin springsnail.

The habitats of these and other aquatic species are closely associated with hot springs; many have been illegally developed for bathing. These developments and associated vehicle use, are adversely affecting wildlife habitats.

Approximately half of this management area is high potential for geothermal development; the remainder is of moderate potential. The area is within the Mammoth Known Geothermal Resource Area (KGRA). Geothermal development is controversial because of potential and perceived impacts on wildlife, water quality, and visual resources. A significant segment of the local population seems to be against development and any threats to the natural and recreational amenities of the area.

Livestock use is by cattle or sheep within six grazing allotments. Within the cattle allotments, livestock drift on/off Bureau land with the majority of use taking place on intermingled LADWP land (Hot Creek, Wilfred Creek, and Long Valley allotments. Sheep use in Little Round Valley allotment is primarily on LADWP land.

There is moderate mineral potential for hydrothermal deposits near Hot Creek, Big Alkali and Little Alkali Lakes.

There is high potential for salable mineral deposits from alluvial formations within 1/2 mile of Highway 395.

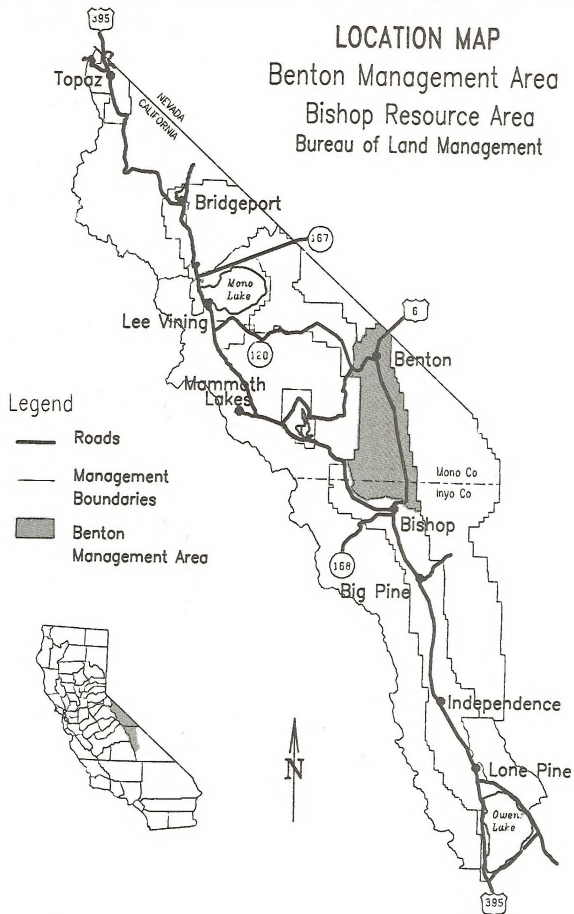
## Benton

This management area, located between Bishop and the Nevada border at Montgomery Pass, is comprised of 178,216 acres of Bureau land (see Figure 3-15). Much of the management area is visible from key observation points along Highway 6. The most prominent features in the viewshed include the White Mountain alluvial fans east of the highway and the Volcanic Tableland to the west.

The area provides a variety of dispersed recreation opportunities on Bureau land. Most of the dispersed use is concentrated in several locations. These include Fish Slough ACEC, the Volcanic Tableland, and the White Mountain alluvial fans. The most popular activities include OHV use, hunting, mountain biking, horseback riding, and sightseeing. Sightseeing opportunities are mostly related to cultural values, geologic features and wildlife appreciation.

Overall, the quality of recreation opportunities in the management area is very good. Low use, expansive terrain and abundant access contributes to the quality of available opportunities. Users seem to be generally satisfied with the present availability of recreation opportunities although there are problems with cultural resource degradation from dispersed use. Additionally, there are concerns regarding OHV use in portions of the area.

OHV use is quite popular in portions of the management area. The north half of the Volcanic Tableland, the White Mountain alluvial fans south of Hammil Valley, and the Blind Spring Hill areas appear to be most popular with local residents. Most use is local and generally confined to motorcycle and four-wheel drive use. The ongoing High Desert OHV Study is currently designating routes for OHV use for most of the area.



Semi-primitive recreation opportunities additionally attract mountain bikers, horseback riders, and hikers primarily to the southern Volcanic Tableland area. Some use occurs in the lower canyons of the White Mountains as well. Area opportunities in the South Tableland include appreciation of geologic values, cultural sightseeing and wildlife observation. Opportunities for solitude and primitive recreation are high in this area where vehicle routes are few and overall use is low. Visitor use is estimated to be 3,000 visitors per year. Approximately 2,000 of these visitors recreate at the Fish Slough ACEC.

Visual resource management has become increasingly important over the last several years. The physical nature of the area's landscape, gently inclined slopes and sparse vegetation make it vulnerable to contrasts which are seen for many miles. Limited topographic relief offers few opportunities to screen developments. Rights of way proposals, minerals activities, off highway vehicle use and land disposals all pose a threat to the area's scenic values.

Portions of the management area are used as winter range by approximately 2,245 mule deer of the Casa Diablo deer herd. Large groups of wintering deer occur from the southern Volcanic Tableland to an area along the base of the Benton Range in the vicinity of the Truman Meadows road. Currently, two separate populations of pronghorn are found in Hammill Valley and Benton Valley year round. Mountain (bighorn) sheep are also seasonally present along the White Mountain front. The western edge of the management area serves as seasonal (winter) habitat for sage grouse. Approximately 50 sage grouse occupy an area between the Black Rock Mine Road south to the west extreme of Chidago Canyon.

Other mammal species of concern include the candidate Townsend big-eared bat and the candidate Owens Valley vole. The Townsend big-eared bat, a State of California mammal species of special concern, is found in several mine tunnels on Blind Spring Hill. The Owens Valley vole, a candidate species for threatened or endangered status, may occur at Fish Slough and Marble Creek. Other species of management concern in the area are the Owens speckled dace and the Great Basin spring snail. Habitat for these species is extremely restricted to only several hundred square feet of surface area at each site. Without immediate protective management, the speckled dace will be extinct in 1-3 years.

The management area contains very high densities of wintering raptors including: golden eagles, assorted hawks, kestrels and the endangered peregrine falcon.

Several raptor species also nest in the management area. California quail are common in some portions of the management area, particularly near streams and springs.

The Fish Slough marsh and wetland, a National Natural Landmark, serves as a stopover for large numbers of waterfowl during fall migrations. The marsh also serves as home to the endangered Owens pupfish and the endangered Owens tui chub. Marble Creek and Coldwater Canyon Creek provide habitat for brown trout.

Several activities have either caused a reduction in habitat quality or have the potential to remove large portions of land from the habitat of several species. Bureau land disposals would vegetatively affect the number and distribution of mule deer, pronghorn, and quail. Off-highway vehicle use, mineral exploration and development, water diversion, and livestock grazing will continue to directly affect the habitat of the above species.

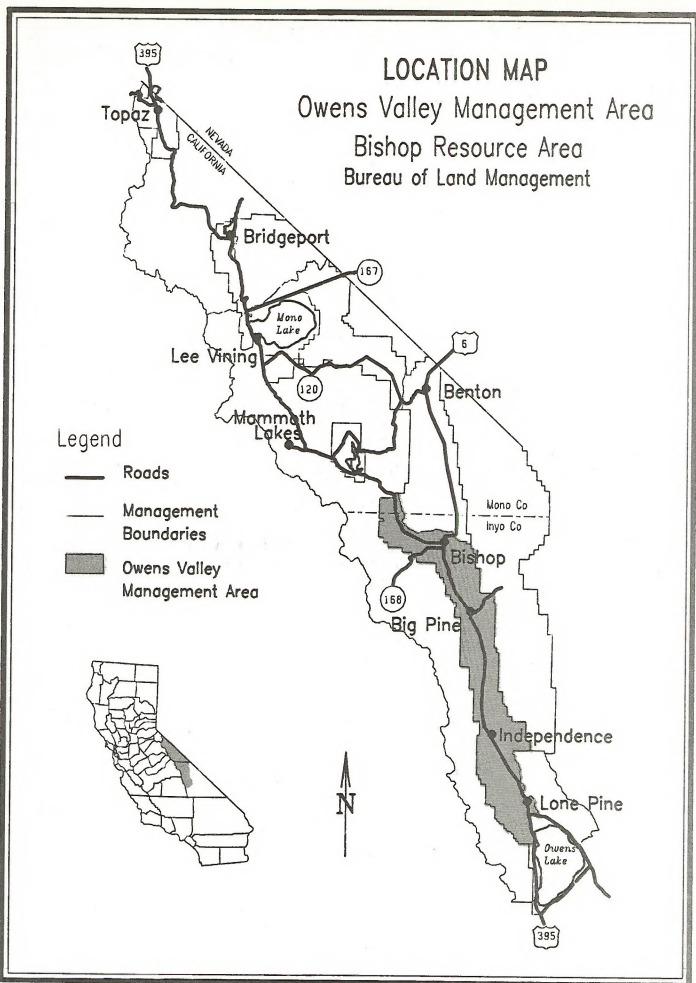
Livestock use is by cattle or sheep within 10 grazing allotments. Allotment size and grazing use varies greatly between allotments. The majority of these allotments have been grazed less than 5% of their permitted capacity over the past 10 years. The Bramlette allotment had a 56% reduction in permitted AUMs from an operator relinquishing his grazing preference. Marble Creek has grazing stipulations for wildlife habitat improvement. Grazing has not been permitted on Bureau land within Fish Slough proper for the last eight years.

There is high and moderate locatable mineral potential near the Montgomery City, Queen Dicks, Black Rock, Kings Mill, Beckman, Casa Diablo, Plute, Sacramento and Jeffrey mining districts.

There is high potential for salable mineral from alluvial deposits within 1/2 mile of Highways 6 and 120.

## Owens Valley

This management area consists of 153,753 acres of Bureau land. The Bureau lands are generally located along the alluvial fans, between LADWP land on the valley floor and USFS on the Sierra, Inyo and White Mountains (see Figure 3-16). Most of the population in the resource area resides in this management area within the communities of Bishop, Big Pine, Independence and Lone Pine. LADWP owns most of the non-Bureau land in the management area. The entire management area is withdrawn from disposal.





The Owens Valley MA provides a wide spectrum of recreation opportunities on Bureau land. Most visitor use is concentrated in the Alabama Hills SRMA, the Tungsten Hills, the Poleta Canyon Open Area, and Owens Valley creeks. The most popular activities include OHV use, fishing, hunting, mountain biking, horseback riding, nature photography, and sightseeing. Sightseeing opportunities are mostly related to cultural values, geologic features, and wildlife appreciation.

Overall, the quality of recreation opportunities in the management area is good. The fragmented land pattern limits some extensive recreation opportunities but does provide access to higher elevation USFS land. The consolidated Bureau land in the north and south portions of the management area provide broader recreation opportunities and are often the goals of area visitors. Three Bureau campgrounds are located in the management area. They include Horton Creek, Goodale Creek, and Tuttle Creek.

Fishing is perhaps the most popular recreation activity occurring in the area. Many of the creeks draining the Eastern Sierra attract out of area fishermen to the Owens Valley especially for the opener and Memorial Day weekend. Almost all the creeks have adequate access. There are some 25 creeks that are potentially fishable on Bureau land; about five or six are steadily used. The most popular are Tuttle Creek, Goodale Creek, Lower Rock Creek, Independence Creek, and Lone Pine Creek. A fishing trail (1-1/2 mile on Bureau and 5 miles on USFS lands) parallels the length of Lower Rock Creek. Fishing opportunities are presently at 75% potential. Some creeks are experiencing riparian vegetation loss and habitat degradation from a shoreline camping and fishing.

Some deer hunting occurs in the area. Approximately 100 hunters per year use the management area.

OHV recreation opportunities are fair throughout the area. Area use includes the Alabama Hills SRMA, the Tungsten Hills and Poleta Canyon Open Area. Indiscriminate OHV use has visually scarred some portions of the Alabama Hills and the Tungsten Hills. The Poleta Canyon Open Area is a small area of 1,300 acres attracting locals. Opportunities for OHV touring are poor at this area.

Sightseeing activities are related to cultural resources; geologic features at Mazourka Canyon, Alabama Hills, Crater Mountain, and Red Mountain; and wildlife observation in Round Valley, Goodale Creek and Tinemaha Reservoir.

Crater Mountain, a volcanic cinder cone, contains significant cultural and scenic values as well as a

variety of geologic features resulting from the natural process of volcanism. It provides some OHV touring and mountain biking opportunities. Hikers frequently seek out the area's lava tubes and petroglyphs. Wildlife observation opportunities are also available. A stark contrast to the Sierra and the Owens Valley, the Crater Mountain massif is viewed by millions of motorists annually from U.S. Highway 395. It has been identified as a recreation resource in auto travel guides, mountain bike tour directories, and various natural history publications. Use is estimated at 900 visitors per year.

Portions of the management area serve as crucial winter range for three mule deer herds. The wintering deer herds are the Sherwin-Buttermilk (Round Valley) population numbering 5,400 animals, the Goodale population of 2,600 deer and a small component of the Monache herd numbering approximately 100 deer. All wintering deer are found west of Highway 395. Tule elk are distributed throughout the Owens Valley in six herd areas. An annual census has recorded an average of 520 elk in the Owens Valley over the past 10 years. The elk habitat of highest importance to the Bureau are the eight district calving areas which generally cover from 1-8 sections of Bureau land. Sierra Nevada mountain sheep occur in three separate winter range sites on Bureau land. Seasonal habitat for mountain sheep occur along the base of the Wheeler Ridge escarpment, the vicinity of both forks of Bairs Creek and from the north fork of Lubkin Creek to Diaz Creek. Mountain sheep on Bureau land at any location rarely exceed 20 animals.

There are also a number of candidate, threatened or endangered species in the management area. Among these are the Townsend big-eared bat, Owens Valley vole, ferruginous hawk, Mountain Lyell salamander, southern bald eagle, Owens speckled dace, Great Basin springsnail and the Owens pupfish. Habitat and/or population numbers for these species are extremely small due to several factors. California quail are generally found in the management area in the vicinity of streams and hillside springs.

The management area is bisected along the Sierra side by 29 perennial streams which provide an environment for a large diversity of aquatic species. One or more species of introduced trout are present in most streams. The streams and their attendant vegetation are critical to survival for a broad diversity and abundance of wildlife.

Several activities historically or currently have caused a reduction in site quality or loss of habitat. Water diversions from Sierra streams, mineral development, road construction, livestock grazing and off-highway



vehicle use during specific time periods are more prevalent contributors to impacts on wildlife populations and their habitat. Bureau land disposals have the potential to negatively affect some wildlife habitats. Mule deer, tule elk, and species confined to small geographically limited habitats (e.g. Mt. Lyell salamander) by lack of mobility to move to other suitable sites, are the more obvious species directly affected by these activities.

Three major transmission lines run through the management area from north to south, largely on LADWP land. The Benton/Owens Valley MFP designated a utility corridor one-half mile each side of existing major transmission lines. The management area has two communication sites: Poverty Hills and Poleta. Most right-of-way authorizations are on the west side of the Owens Valley.

There are portions of several hydro-electric projects on Bureau land on the west side of the management area (Big Pine, Division Creek, Bishop Creek, and the Owens River gorge project). BLM rights-of-way will be required for these projects when their original Federal Power Act authorizations expire. A right-of-way application is pending for a hydro project on Pine Creek. BLM withdrawal review has recommended that all non-linear powersite reserves in the management area be revoked (FLPMA and subsequent Federal Power Act authorizations have superseded powersite reserves).

Livestock use is by cattle on 19 grazing allotments. The cattle drift on/off Bureau land with the majority of use taking place on adjacent LADWP land. Two allotments within the Buttermilk-Sherwin deer winter range have had no grazing within the last 10 years (operator has taken non-use until BLM develops AMP). The Zurich allotment has grazing stipulations for wildlife habitat improvement.

There is high potential for salable mineral from alluvial deposits within 1/2 mile of Highway 395.

There is high and moderate potential for locatable minerals in the vicinity of the Paradise Camp, Western, Little Shot, Jack Rabbit, Lucky Strike, Aeroplane, Whitecaps, Yaney, Bishop Ross, Poleta, New Era, Montezuma-Blake, Green Monster and Black Jack mining districts.

## South Inyo

This management area includes 65,000 acres of Bureau land primarily on the western slope of the Southern Inyo Mountains (see Figure 3-17). The

Bureau has proposed 27,420 acres of the area as suitable for wilderness designation.

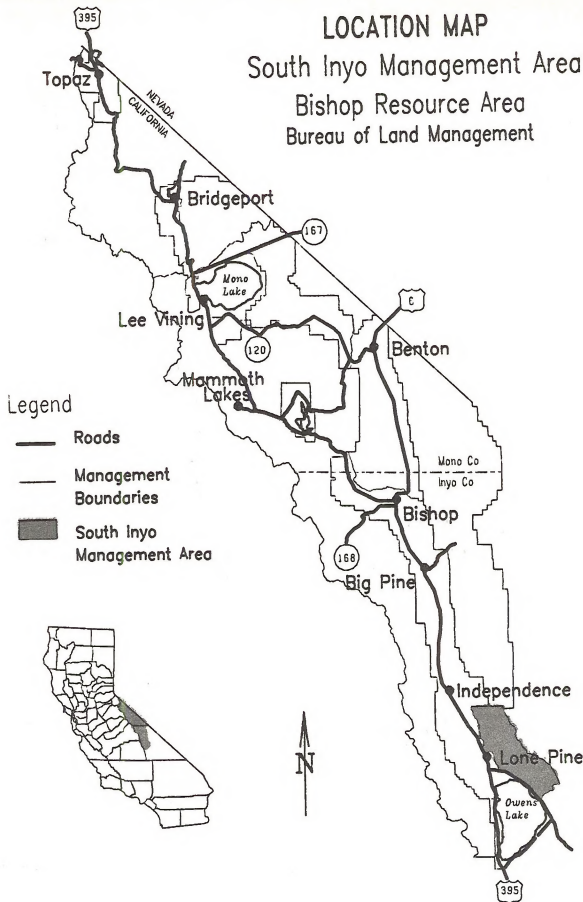
The Inyo Mountains rise abruptly from the Owens Valley floor to an elevation of over 11,000 feet. Historically, most human activity in the Southern Inyos has taken place in the vicinity of Cerro Gordo and along the route of the Saline Valley Salt Tram. Both these locations are considered important cultural sites and the salt tram has been placed on the National Register of Historic Places. Vehicular access to the tram station on the crest via Swansea Grade and Cerro Gordo is presently controlled by private parties. There have been some public concerns expressed about this issue by Lone Pine residents who feel that access to the crest is restricted. Vehicle access to hiking trailheads (the Pat Keyes, Long John Canyon, Forgotten Pass, and Union Wash) is also controlled by private parties. To date, there has been no restriction of access to these trails.

The Inyo Crest offers a spectacular view of the Owens Valley and the High Sierra. Extensive stands of timber and bristlecone pine are also located in the area.

Other recreation opportunities include hunting, rockhounding, cultural sightseeing, mountain biking, backpacking and OHV use. Physical settings are classified as primitive to semi-primitive non-motorized opportunities. About 3,000 visitors per year visit the management area. Thirty of these users mind deer. There has been some route proliferation in the management area, especially in the more accessible alluvial fans and foothills. Additionally, the portion of the Pat Keyes trail outside the proposed wilderness area is subject to minerals development.

Water availability limits the Inyo Mountain deer herd to a high elevation range extending from the north extreme of the management area to Mexican Spring. Mountain sheep historically occupied the west side of the Inyo Mountains. Today, only an occasional ram is seen in the area while a population of less than 35 sheep persist on the east slope of the range. Mountain lion are also located in the Southern Inyo Mountains. Chukar and quail are commonly found near spring sources. Prairie falcon aeries have also been located in Long John Canyon. The candidate Inyo salamander also resides in several springs on the west side of the Inyo Mountains. The candidate dune weevil is found on the valley floor. The Great Basin springsnail occurs at an isolated spring in the mid-portion of the range.

The mountain topography for most of the management area has served to limit the historic and recent activities which cause reductions in site quality or loss of wildlife habitat. Water diversion from a spring, mineral



development, and road construction and proliferation from off-highway vehicle use are the primary contributors to impacts on wildlife and their habitat. Bureau land disposals for agricultural development have the potential to eliminate a large portion of the candidate dune weevil habitat.

There is high potential for salable minerals from alluvial deposits within 1/2 mile of Highway 395.

There is high and moderate potential for locatable minerals in the vicinity of the Burgess, Bonham and Cerro Gordo mining districts.

## Owens Lake

This management area consists of 17,380 acres of Bureau land encircling Owens Lake (see Figure 3-18). The Owens Lake bed itself is State land. One of the more significant and visible resource problems in the area is one of ambient air quality resulting from blowing dust. The community of Keeler is particularly affected by this problem. Studies and tests are currently being undertaken by various agencies to find ways of dealing with the problem.

The Owens Lake bed is generally devoid of vegetation, however, significant wetland vegetation and wildlife habitat exists along the shorelines. Candidate species including the Owens Valley vole, western snowy plover and Owens dune weevil occupy restricted sites within the Owens Lake bed or adjacent areas. The endangered Owens tui chub occurs on private land in a small spring channel at Cartago.

Suitable habitat for tule elk calving occurs on Bureau land at the mouth of the Owens River. Rutting and wintering areas occur along the north, northwest and northeast margins of the management area. The elk population in the management area varies between 20 to 50 animals. Important winter range for a component of 200-250 mule deer from the Monache herd is found between Braley and Carrol Creeks. Several thousand ducks, geese and swans also use portions of the Owens Lake and adjacent alkali meadows as wintering habitat.

Wildlife habitat is affected by livestock grazing in some areas along the south and west side of Owens Lake. OHV use and route proliferation also occur around the edges of Owens Lake. Bureau land disposals for agricultural development have the potential to eliminate habitat for the tule elk, snowy plover and Owens dune weevil.

There is a demand for and a supply of mineral materials in the area. High geothermal potential exists along the southern boundary.

There is high potential for salable minerals from alluvial deposits within 1/2 mile of Highways 395, 136 and 190. There is low potential for solid leasable minerals throughout the management area.

The Owens Valley Interagency Visitor Center, located at the north end of the management area is administered cooperatively by federal, state and local agencies. The visitor center disseminates area information to eastern Sierra travelers. The Bureau is one of the several agencies who provide financial support to the visitor center. The present visitation of 250,000 per year exceeds the facility's capability to provide quality visitor services. Visitation is expected to increase up to 10% per year. The Visitor Center's purpose needs to be reevaluated and the facility expanded.

## East-West Transmission Line Alternative Corridor Areas

### Pizona Alternative Corridor Area

The Pizona area is the northernmost study corridor considered. It is generally about 3 miles north of Highway 6, except where it crosses Highway 6 at Montgomery Pass. It adjoins the northern boundary of the Queen Valley Alternative area (Figure 3-19). It is approximately five miles wide, and traverses the highly serrated foothills of the Pizona area. Vegetation includes vast expanses of undisturbed piñon pine-juniper habitat. There are several springs, seeps, and wet meadows which provide water, riparian habitats, and wetlands not commonly found in this part of California or western Nevada. Elevations range from 6,500 feet at the existing north-south transmission corridor to scattered peaks at 8,000 feet. The area is undeveloped and access is only by four-wheel-drive roads.

This area is located in the USFS's Pizona Management Area. Management direction for the USFS portion of this area states: "Recognize the route paralleling the Pacific DC Intertie transmission line as having the highest potential for a north-south utility corridor on the Forest." A small portion of the area is included in the Mule Deer Habitat Prescription (see Figure 3-20) with the majority allocated to the Semi-Primitive Prescription. The purpose of this prescription is to limit vehicular access to existing designated routes to protect and maintain recreation and/or wildlife values. The emphasis is on providing semi-primitive

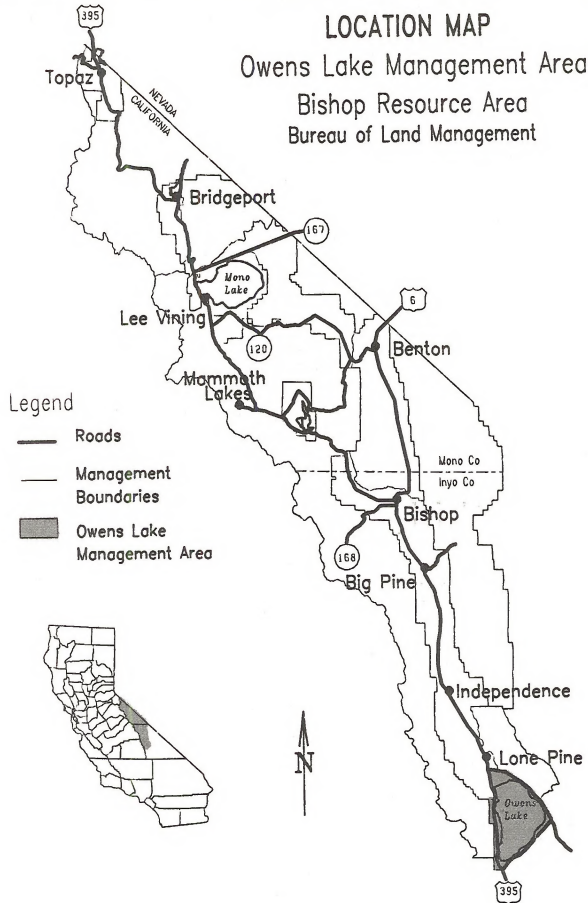


Figure 3-18



dispersed recreation opportunities. No new road construction is permitted on the USFS lands in this prescription area. The Bureau's management theme for this area is to provide a variety of dispersed recreation opportunities and enhance scenic and wildlife resources, while providing for private uses along Highway 6.

### **Wild Horse Habitat**

This entire area is located within the natural ranges of the Montgomery Pass and White Mountain Wild Horse Herds (see Figure 3-21). Both herds are naturally regulated by mountain lion predation. Some of the most critical sources of water (springs) and key foaling areas for the Montgomery Pass herd are located within the bounds of this alternative corridor route.

A portion of the foothills on the west and north side of Benton Valley is within the winter range of the Montgomery Pass Wild Horse Territory (MPWHT). Approximately 15-25 horses utilize this area from November through March. This information is a general statement since little monitoring has occurred to document a more accurate use estimate.

The Bureau is a party to the MPWHT CRM plan, with the Inyo National Forest having the lead role. Management actions and future decisions would be conducted on a coordinated approach since the wild horse use areas encompass lands of 2 separate BLM districts and 2 separate National Forests.

### **Key Wildlife Habitats**

The Pizona corridor area currently contains approximately 100 summer resident mule deer which use fawning sites within 1/4 mile of available riparian (spring), meadow and mixed pinyon-bitterbrush-sagebrush sites which have cover greater than 60% (see Figure 3-21). Deer use occurs largely on USFS lands from lower Pizona drainage to near McBride Spring. Broken terrain (deep drainages to small escarpments) mixed with the above vegetation types characterize the most preferred fawning areas. Less than 10% of the preferred habitat type occurs on Bureau lands.

During winter deer migration, approximately 300-500 animals use the Pizona area as an access route to winter range along the north, west and south sides of Huntton Valley. In poor snowfall years, these deer tend to use the corridor as winter range (e.g. 1988-89-90).

About 10-15 pronghorn use the mixed pinyon-sagebrush zones as fawning areas from the northern foothills of Queen Valley north and west to McBride Springs then northeast to within 1-2 miles of Jack's Spring Canyon. German Spring (in Nevada) also serves as a general reference point for other fawning sites in some years (see Figure 3-21).

### **Sensitive Plants**

There is a high potential that sensitive plant habitat exists in the Montgomery Pass area of this alternative, and surveys for such habitats would need to be conducted prior to surface-disturbing management activities.

### **Visual Resources**

Key view points of this area are from U.S. Highway 6 and State Highway 120. Most of the areas within this corridor area are not generally visible from these travel routes or from residential areas. Visible areas are seen only from long distances (5+ miles) and are in the background view of the landscape. Most of the area can be seen only from the limited number of primitive roads within the area itself. Bureau lands in this corridor are classified as VRM Class III.

### **Recreation**

The Forest Plan applies the management prescription of "Semi-Primitive Recreation" to the majority of this alternative route on USFS lands. Bureau lands are prescribed for recreation management and other uses. Pages 147-148 of the Forest Plan identify management activities/direction for implementing the Semi-Primitive Recreation management prescription. Because there is only 4-wheel drive access to the majority of this area, recreation use is limited to this activity, hunting, and outfitter guide operations.

Only a few, primitive roads penetrate this alternative area, with few other signs of surface-disturbing uses. The area consists largely of an expansive, undisturbed pinyon pine forest in its natural condition, which has been historically used by local Native Americans as their main sources of food and raw materials for survival.

### **Cultural Resources**

Over 40 known cultural resource sites have been identified within this alternative location, making it an area having one of the most concentrated occurrences of such sites in the Inyo National Forest. Stone flakes, points, and tools are commonly found between known sites. The Inyo National Forest Pizona Management



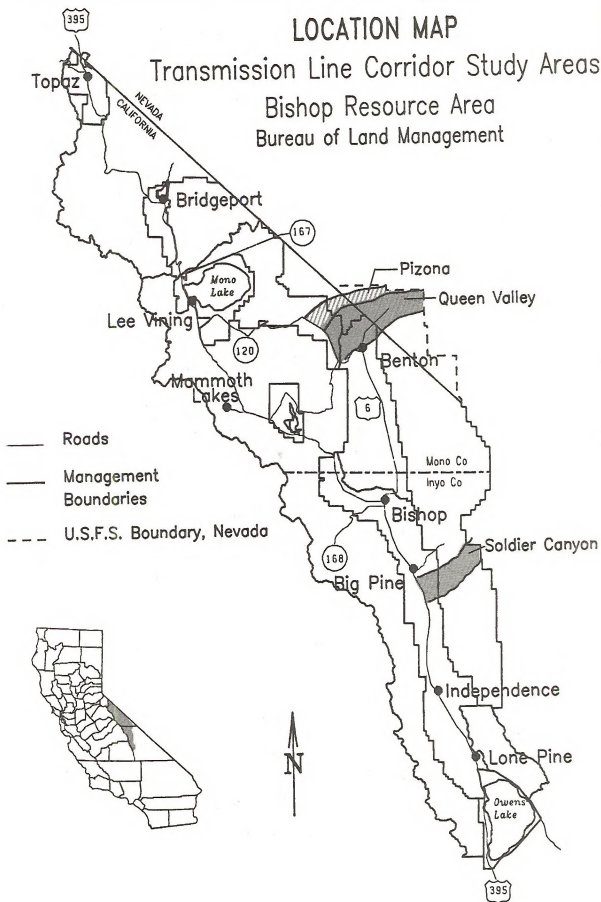
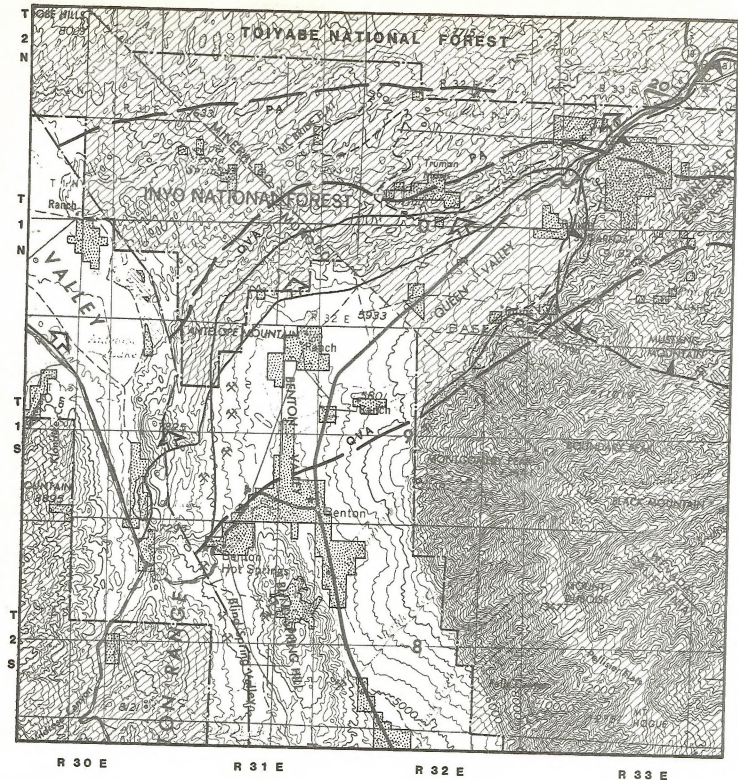
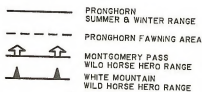
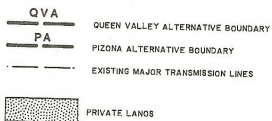
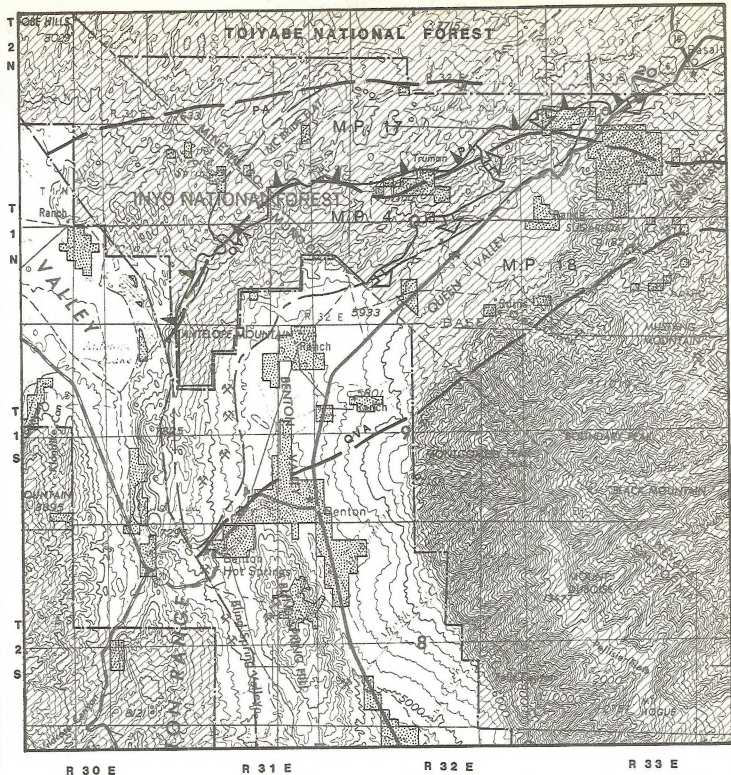


Figure 3-19



## KEY RESOURCES IN QUEEN VALLEY AND PIZONA ALTERNATIVE CORRIDORS





## KEY RESOURCES IN QUEEN VALLEY AND PIZONA ALTERNATIVE CORRIDORS

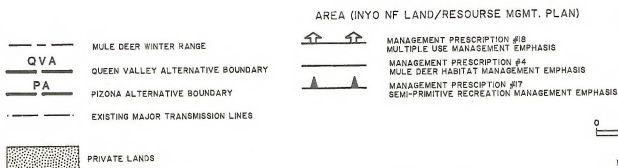


Figure 3-21



Area (within which this alternative is located) has been identified in the Forest Plan as having numerous prehistoric cultural resource sites that are often well preserved due to limited access and the dry climate.

## Queen Valley Alternative Corridor Area

The Queen Valley area is a five-mile wide corridor spanning U.S. Highway 6 from the existing north-south transmission line near Benton Hot Springs in California to Montgomery Pass in Nevada (Figure 3-19). Its northern boundary is the southern boundary of the Pizona Corridor and approximately follows the 7,000 foot contour line from Antelope Mountain to the Pass. At that point it crosses U.S. Highway 6 and continues south of the highway. Its southern boundary follows State Route 120, crosses U.S. 6 at the California State Inspection Station and approximately follows the 8,000 foot contour line of the White Mountains.

The Queen Valley area encompasses a variety of terrain from the Benton Range at elevations of 6,800 feet across the wide, flat and open Benton and Queen Valleys at 5,000 feet to the eastern foothills of the White Mountains.

The area is semi-desert with sagebrush and scrub at low elevations and pinyon-juniper at higher elevations. The southern boundary of the corridor skirts the communities of Benton Hot Springs and Benton. U.S. Highway 6 is a two-lane primary access route through the mountains from California to Nevada. Along the highway in the Montgomery Pass area there is substantial development including a casino, junk yard, various dwellings, and numerous roads. The remainder of the corridor is rural with scattered ranches, mines and quarries.

The Queen Valley area is predominantly located in the White Mountains Management Area of the USFS and in the Benton Management Area of the Bureau. USFS management direction for this area states: "Participate with the Bureau of Land Management in the study of existing and potential powerline corridors...." It is for the most part allocated to the Multiple Resource Prescription with direction as described above. There is also a portion near the northern boundary of the area allocated to the Mule Deer Habitat Prescription. The purpose of this prescription is to preserve or enhance key mule deer habitat so as to maintain or increase existing population levels. Other management activities will be prohibited or reduced if they present unresolvable conflicts in these key areas. The Bureau's management theme for this area is the same as for the Pizona Alternative, above.

## Wild Horse Habitat

The northernmost and easternmost portions of this alternative area are located within the natural ranges of the Montgomery Pass and White Mountain Wild Horse Herds. See Figure 3-21.

## Key Wildlife Habitats

The Queen Valley and Benton Valley have been identified as crucial pronghorn winter and summer range. A total of 45-70 animals occupy the area from October to April annually. A resident population of 25-35 animals occurs here and uses this area as fawning habitat. This population is currently expanding. Approximately 40% of the winter pronghorn population in the Queen/Benton Valley area migrates west over the Benton Range into Adobe Valley. The route over the Benton Range normally used is along the north side of Antelope Mountain. Pronghorn from the Adobe and Benton/Queen Valley summering groups utilize the area described for fawning in the Pizona Corridor. Approximately 20-30% of the Adobe pronghorn summer group remain in the Adobe Valley to fawn.

The south-facing slopes along the north/northwest side of Queen Valley have been designated as key mule deer habitat in the Inyo National Forest Plan. Management objectives for those areas are to enhance or preserve mule deer habitat or increase existing population levels. A total of 250-400 deer use Bureau lands in Benton Valley along the west side of the Valley. Approximately 350-500 deer occupy Bureau land along the east side of Benton Valley from Morris Creek south along the White Mountains to the vicinity of Pellisier Creek. Approximately 200 deer occupy Blind Spring Hill as winter range.

## Sensitive Plants

Sensitive native plants have been identified in the Sugarloaf Mountain portion of this alternative area.

## Visual Resources

Most of this study area is within foreground and middleground views seen from U.S. Highway 6 and State Highway 120. The vegetation and topography offers the highway traveller expansive, open views of the valley itself, the north end of the White Mountain Range, and the toe of the Pizona country. Bureau lands east of Highway 6 are designated as VRM Class II; west of Highway 6 as VRM Class III.

## Recreation

Recreation opportunities and uses consist of semi-primitive dispersed uses primarily related to OHV touring, etc. Use is considered low.

## Cultural Resources

Although perhaps not as numerous as in the Pizona area, the number and distribution of cultural properties in Queen Valley makes this area highly sensitive.

## Soldier Canyon Alternative Corridor Area

The Soldier Canyon area is located three miles east of U.S. Highway 395 and the community of Big Pine in Inyo County, California (Figure 3-19). Approximately five miles wide, the study area crosses the Inyo Mountains in a northeasterly direction from Owens Valley in the west to Deep Springs Valley in the east for a distance of ten miles.

The Inyo Mountains are an arid mountain range, typically semi-desert with sagebrush in the lower elevations and pinyon pine at higher elevations. Lack of water is one of the most notable characteristics of the Inyos; there are no perennial streams. The Soldier Canyon area is located at the north end of the Inyos with elevations ranging from the valley floor of 4,000 feet to 9,000 feet. Terrain is serrated with rolling hills and canyons. The area is unroaded with exception of the Waucoba Road, primitive two track routes on Bureau land and some inactive mines, but is essentially in a natural state with little signs of human disturbance.

The Soldier Canyon area is located in the Inyo Mountains Management Area on USFS land and in the Owens Valley Management Area on Bureau land. Management direction for the USFS land states: "Participate with the Bureau of Land Management in the study of existing and potential powerline corridors. Include in this study the need for additional north-south utility lines paralleling the existing Oregon-Sylmar HVDC transmission line and for new east-west corridor locations" (Plan, p. 232). It is allocated to the Multiple Resource Prescription. The emphasis of this prescription is on providing for the use of all resources with direction to allow roads or other facilities to be constructed or upgraded in support of mineral, range, recreation, and other uses (Plan, p. 149). The Bureau's management theme for this area is to provide for the full spectrum of uses with emphasis on recreation.

## Key Wildlife Habitats

Elk in the Tinemaha and Bishop herds in Soldier Canyon Corridor consist of 140-165 animals. Much of the western half of this alternative area has been identified as tule elk calving habitat (see Figure 3-22). Calving of tule elk generally occurs between March 1 and June 1 annually. In addition to specific calving grounds, the majority of the area between Highway 395 and the toe of the Inyos serves as nursery habitat from May to August. Elk also use the area north and west of Tinemaha Reservoir during the rut in August and September.

There is important raptor habitat near this corridor (see Figure 3-22). American bald eagles (endangered species, USFWS) occupy the Owens River from near Klondike Lake south to Tinemaha Reservoir from late October through April. The number of eagles usually averages between 5-20 in the area. Eagles, on occasion, are found along the riparian strip from Tinemaha Creek along the Poverty Hills to the reservoir. The ferruginous hawk utilizes the same general habitat as the bald eagle along Tinemaha Creek north for approximately 2 miles along the Owens River from the reservoir. The number of hawks ranges from 5-10 birds/season. The ferruginous hawk is a candidate species (Category 2) for federal listing.

## Sensitive Plants

Sensitive plant species have been identified in areas in Soldier Canyon, in the McMurry Spring area, and along the Waucoba Road.

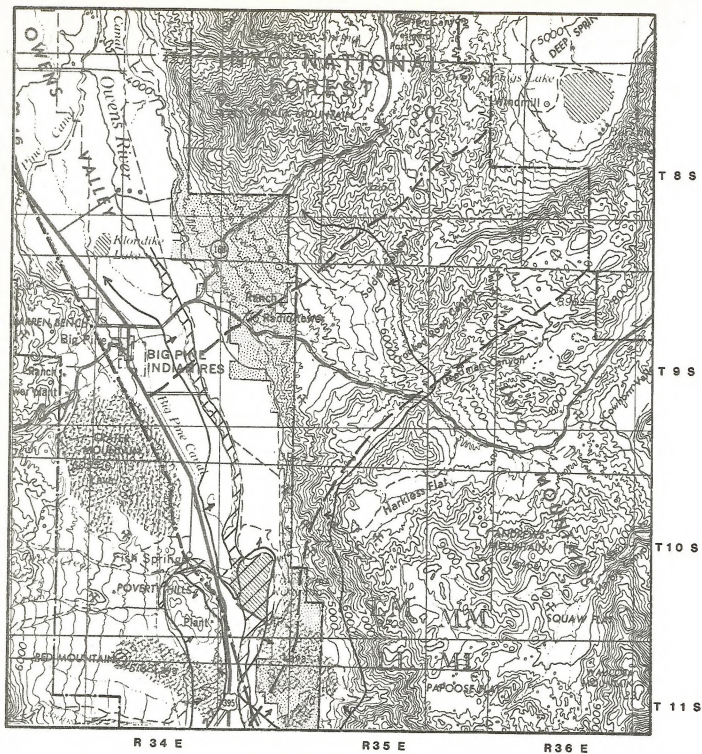
## Visual Resources

The corridor straddles the lowest elevation terrain along the geographic boundary of the Inyo and White Mountains. Terrain features are highly fractured and broken with many dry drainages and washes. Elevation ranges from 3,850 feet to 9,000 feet. Great Basin brush and grass species occupy most of the corridor, while pinyon pine occupies elevations above 8,000 feet. The key viewpoints are Highway 168 (Westgard Pass Road), Highway 395, the Waucoba Road, and the Big Pine community. Partial retention is the Visual Quality Objective for USFS lands, while VRM III class applies to Bureau lands.

## Recreation

Recreation opportunities and use are primarily dispersed and semi-primitive consisting mostly of OHV touring and some caving activities southeast of Tinemaha Reservoir. Additionally, Highway 168 and the Waucoba Road receive considerable vehicle use





### KEY RESOURCES IN THE SOLDIER CANYON ALTERNATIVE CORRIDOR





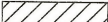
-  SOLDIER CANYON ALTERNATIVE BOUNDARY
-  TULE ELK CALVING AREAS
-  EXISTING MAJOR TRANSMISSION LINES
-  BLM LANDS
-  RAPTOR HABITAT



Figure 3-22

by motorists who travel to and from Eureka Valley, the Ancient Bristlecone Pine Forest and the Owens Valley.

This alternative route is relatively undisturbed, with the Waucoba Road being the only major man-made facility or improvement. Only a few primitive two-track roads exist in the Soldier Canyon/Crooked Canyon/McMurry Spring portions of this alternative. Some old mining developments and routes exist on Bureau land south of

Waucoba Road to the Big Pine Volcanic Field. The southeast corridor boundary bisects four miles of WSA CA-010-060B (Paiute WSA) which is virtually unroaded and in a natural condition.

### **Cultural Resources**

Over 40 cultural resource sites have been identified within or in the vicinity of this alternative area, making it quite sensitive.



## Chapter 4 Impacts



*Hot Creek - Identified for Wild and Scenic River Study.*





## Introduction

This chapter analyzes the environmental impacts of the management alternatives presented in Chapter 2.

- Since the alternatives describe overall management emphasis, and do not necessarily propose specific, on-the-ground projects or actions, the environmental consequences of the alternatives are often expressed in comparative, general terms. In most cases, subsequent analysis will be required to implement resource management decisions. More detailed or site-specific studies and appropriate environmental documents will be prepared in compliance with the National Environmental Policy Act and its implementing regulations as the need arises.

Impacts described include analysis of the direct, indirect and cumulative impacts of the proposed actions. Other actions throughout the eastern Sierra region that may affect the topics analyzed are also considered. Irreversible and irretrievable commitments of resources and short-term uses versus long-term productivity are described.

Grazing decisions analyzed in prior environmental impact statements are not reanalyzed in this document. The Benton-Owens Valley and Bodie-Coleville Grazing EISs (1981 and 1983) and related decisions are incorporated in this RMP by reference.

Mitigating measures designed to avoid or reduce the environmental impacts were incorporated into the various alternative management actions. Impacts identified in this chapter are considered unavoidable net effects.

## Assumptions

- 1) All decisions will be implemented within 3 years of the draft EIS on the plan.
- 2) Unless otherwise specified, impacts shown are those expected to occur 5 years after implementation.
- 3) Unless otherwise specified, short term impacts are those which occur within 5 years of implementation; long term impacts would occur 5-20 years after implementation. No attempt will be made to predict impacts more than 20 years after implementation.
- 4) Unless otherwise specified, impact estimates are based on knowledge of the area and the professional judgement of the resource specialist. In

most cases the judgement is based on conditions and responses in areas similar to the Bishop Resource Area.

- 5) Impacts are the difference between existing conditions and conditions 5-20 years after implementation of a given alternative.
- 6) Near normal annual precipitation will occur.
- 7) Existing laws and policies will remain in effect.
- 8) The standard operating procedures in Appendix 7 and the mitigation measures described for the transmission line corridor alternatives will be followed.
- 9) Multi-line facilities carrying loads greater than 115 kv will be constructed along all transmission line corridors. They could include wood pole H-frame structures up to 90 feet tall and steel towers up to 150 feet tall. As many as five lines could be built. In some areas there will be service roads paralleling the lines. Also in areas of larger vegetation and trees much clearing and pruning can take place. Some clearing is generally required for tower pads.

## Impact Topics Analyzed

Thirteen impact topics are analyzed in this document including impacts on: visual resources, recreation opportunities, mule deer, sage grouse, pronghorn, tule elk, riparian and fisheries, T&E species, vegetation, cultural resources, livestock grazing, and locatable and salable minerals. These were identified during the scoping process as having the potential for significant environmental effects.

## Impact Topics Eliminated From Analysis

- 1) *Impacts to Geothermal Commercial Power Development Opportunities.* Reasonably foreseeable development scenarios project a less than 5% chance that commercial geothermal power development will occur on Bureau lands during the life of the plan. This is based on economic projections, geothermal potential, and current and projected levels of industry interest. Under this scenario, there is little or no possibility that the Secretary will reinstate the geothermal leasing program, or that pending non-competitive

lease applications will be processed. NSO stipulations, seasonal restrictions, or leasing withdrawals will have little or no impact on geothermal development. Impacts to existing leases will be negligible because of prior existing rights afforded in the lease agreement.

- 2) **Impacts to Geothermal Direct Heating Development Opportunities.** Reasonably foreseeable development scenarios project a greater than 90% chance that a direct heating project will be developed on an existing lease on Bureau lands at Travertine Hot Springs. Due to prior existing rights in the lease agreement, NSO stipulations, seasonal restrictions, or leasing withdrawals will have little or no impact on development.

- 3) **Impacts to Solid Leasable Minerals.** There is no potential for solid leasable minerals throughout most of the resource area. Low potential exists for sodium carbonate on BLM lands surrounding Owens Lake. No exploration or development of solid leasable minerals is anticipated in the next 10 to 20 years.

- 4) **Impacts to Oil and Gas.** There is little or no potential for oil and gas throughout the resource area. The resource area is underlain primarily by granitic or volcanic rocks, and there are no known source rocks for hydrocarbon in the region. No exploration for oil or gas is anticipated in the next 10 to 20 years.

- 5) **Impacts to Air Quality.** Air quality was initially considered as a topic to be addressed. The main sources of air pollution from Bureau lands are dust and exhaust emissions from activities such as vehicle use and mineral exploration and development. This results in airborne particulate matter and temporary concentrations of exhaust fumes. However, overall use of Bureau land in the next 10 to 20 years would not have a significant cumulative impact on the air quality.

- 6) **Impacts to Soils.** Soils were initially considered as an environmental topic to be addressed in the EIS. The main impact to soils on Bureau lands is accelerated erosion caused by surface disturbance and vegetation manipulation. Site specific activity plans will include measures to reduce soil erosion resulting from the proposed action. In addition, many SOPs (See Appendix 7) are designed to reduce soil erosion. Under projections of foreseeable surface disturbance for each of the alternatives considered only minor increases in soil erosion would occur.

- 7) **Impacts to Water Quality.** Water quality was considered as a topic to be addressed in the EIS. However under projections of foreseeable use for all alternatives, impacts to water quality would be minimal. BLM intends to consult the Lahontan Regional Water Quality Control Board's individual water basin objectives and the State's 1990 Water Quality Assessment (WQA) to reduce water quality impacts. Best Management Practices will be developed for existing and potential water quality problems. The majority of water quality problems in the resource area are related to non-point source pollution which is addressed in Sections 208 and 319 of the Clean Water Act and noted in the state's WQA for specific waters.

## Projections of Future Development and Use (Reasonable Foreseeable Development Scenarios)

The following scenarios are the basis for the impact analyses in this chapter.

### Alternative 1: No Action/Continuation of Present Management

#### Geothermal Resources Exploration and Development

The potential for geothermal development will remain strongly tied to oil prices. Current projections over the next decade show little or no *real* increase in oil and gas prices. Geothermal exploration and development is expected to continue at present low levels.

Increased electrical power demand coupled with decreasing dependence on oil for power generation could, on a state-wide basis, increase the demand for alternative energy sources. The relatively small size and remote location of eastern Sierra geothermal resources make future development unlikely on Bureau lands.

Current and planned eastern Sierra geothermal developments (all on private and USFS lands) are based on commercial power contracts conceived during the height of the Arab oil embargo. Without these contracts, according to industry sources, commercial power generating projects in this region are unfeasible. Although catastrophic global energy disruptions could once again occur, they are neither reasonable nor foreseeable and are not considered in these analyses.

**Commercial power development.** Geothermal industry sources project little or no possibility that California will reissue commercial power contracts in the eastern Sierra region in the next 10 years. Combined with low levels of industry interest, there is a less than 1% chance that a commercial power generating geothermal project will be proposed and developed on Bureau lands.

Although there are large areas within the RA of high occurrence potential (primarily based on KGRAs), the development potential is generally low. The most likely location for a commercial power generating project is in the Long Valley caldera (Long Valley Management Area (MA)). However according to recent geophysical studies, all Bureau land within the caldera is outside of the resurgent dome. Moreover, drilling on Bureau lands in this area yielded no anomalously high geothermal gradients. The dome represents an underlying magma body at depth (5-7 km) and is the most likely location for wells of sufficient temperature to produce commercial electrical power.

A typical project would include: the drilling, construction and operation of geothermal production and injection wells; the construction and operation of gathering and injection systems; and the construction of binary power plant and control facilities. Typical characteristics are shown in Table 4-1.

**Direct heating applications.** There is a greater than 90% chance that a geothermal project for direct heating applications will be developed on Bureau lands during the life of the plan. Mono County has received approval for a California Energy Commission grant to develop geothermal resources from an existing lease at Travertine Hot Springs (Bridgeport Valley MA).

**Table 4-1. Characteristics of a Commercial Geothermal Electric Power Generating Project**

Power output	7-15 MW
Generators	3 total
Heat exchangers	9 total
Air coolers	40-44 total
Production wells	4-5 total
Injection wells	3-5 total
Production	5,000-6,000 gpm
Gathering pipelines	2,600-4,200 feet
Injection pipelines	1,700-4,500 feet
Surface disturbance	12-15 acres total

The Travertine Hot Springs project will include a production well and injection well for reservoir maintenance. Thermal waters will heat fresh water by an on-lease heat exchanger. The heated fresh water will be piped to selected county and state facilities in Bridgeport with retrofitted heating systems.

According to County officials, the project will have characteristics outlined in Table 4-2. All activities will be on an existing geothermal lease (the county plans on a lease assignment). The current lessee, Quadra, has the responsibility of ensuring that the existing wells, Bigfoot 1 and 2, are properly plugged and abandoned prior to lease assignment. No temperature gradient holes are planned.

Another direct heating project is under study involving federal leases within and near the town of Mammoth Lakes. No Bureau lands are involved. No other direct heating projects are projected within the resource area.

### **Locatable Mineral Exploration and Development**

An estimated 78% of the locatable minerals deposits are economically feasible for development. Projected activity includes 280 exploration projects, and 35 new mines over the next 10-20 years. Of these, 14 are expected to be major projects (>100,000 tons, net value > \$10 million) involving 10 acres each for a total of 140 acres. Of these 14 projects, 3 will be "super" projects, including the Bodie-Galactic Project. These will involve 25 acres or more of disturbance each for a minimum total of 75 acres. These "super" projects will employ up to 500 persons and make a significant contribution to the tax base of Mono and Inyo counties. The other projects will involve small deposits (<10,000 tons) and surface disturbances of less than 5 acres each. A total of 1,200 acres of surface disturbance is anticipated.

**Table 4-2. Characteristics of the Direct Heating Project Proposed by Mono County for Selected County and State Buildings in Bridgeport**

Production wells	1 total
Injection wells	1 total
Heat exchangers	9 total
Gathering pipelines	200-400 feet
Injection pipelines	300-500 feet
Transmission pipeline	10,000 feet
Surface disturbance	< 3 acres total



An estimated 22% of the locatable mineral deposits are marginally economic. These deposits are generally small (<10,000 tons) involving \$500,000 to \$1 million in gold or other locatable minerals. While these deposits may have upwards of \$1 million in mineralization, the cost of extraction may be 90% or more of this value. Hence, they will not proceed past the exploration stage.

The areas likely to experience development are those within or near existing mining districts.

### **Salable Mineral Exploration and Development**

An estimated 61% of the salable mineral deposits can be developed. This will involve 110 exploration projects, 430 acres and 40 new mines/sales over the next 10-20 years. Of these, 6 are expected to be major projects (>100,000 cubic yards, net value > \$50,000) involving 10 acres each for a total of 60 acres. The other projects will involve small deposits (<1,000 yards) and surface disturbances of less than 1 acre each.

An estimated 39% of salable mineral deposits would not be developed due to economic or environmental reasons.

### **Recreation Use and Development**

The major landholders in the eastern Sierra are the Inyo and Toiyabe National Forests (USFS), the Bureau of Land Management (BLM), the City of Los Angeles Department of Water and Power (LADWP), and the National Park Service (NPS). Recreation opportunities on these lands attract visitors from throughout the United States as well as other countries. Most visitors use the National Forests and National Parks in the area. BLM and LADWP lands support about 30% of the total use. Most users come from southern California to the area's numerous recreation facilities and resources. This includes alpine ski areas, campgrounds, wilderness, scenic areas, hunting areas, creeks, etc.

The rapid growth of southern California, the demand for recreation resources, and the USFS's current direction will slightly to moderately increase regionwide use. Proposed developments include alpine ski facilities at Sherwin Bowl, Minaret Summit, San Joaquin Ridge, and other areas. Additionally, various new trails, campgrounds and interpretive sites are planned. The pending Inyo County - LADWP water agreement would provide money to improve county park facilities and develop area recreation opportunities.

Regionwide, it is expected that most categories of recreation use will increase. Predominantly, dispersed recreation including in OHV touring, camping, mountain biking, nordic skiing and hiking will increase. Mammoth Mountain Ski Resort encourages summer mountain bike use and operates commercial mountain bike tours.

Bureau lands are expected to incur some spillover use from these increases as well as serve as primary destination goals for some visitors. Although there would be some proactive management to develop recreation opportunities on Bureau land, it would be concentrated at the Alabama Hills and Bodie Bowl SRMAs, Fish Slough and Travertine Hot Springs ACECs, and other use areas. Unmanaged recreation use would occur in dispersed areas. Some significant activities that would contribute to regionwide recreation uses include sage grouse and deer hunting, mountain biking, wildlife observation, dispersed camping including Crowley Lake Campground, fishing, hot spring bathing, Bodie Bowl sightseeing (less than 188,000 visitors), and miscellaneous recreation. Additionally, 820 acres of waterfowl habitat would be available for hunting.

Primary areas of use include Topaz Lake, Bodie Hills, Conway Summit, Travertine Hot Springs and Fish Slough ACECs, Alabama Hills and Bodie Bowl SRMAs, the Inyo Mountains, and several Owens Valley creeks.

### **Land Development**

The bulk of lands identified for disposal are in the Owens Valley, Owens Lake, South Inyo, and Benton MAs. These lands would be used mostly for agriculture such as alfalfa or row crops. A smaller portion of the disposals, including parcels near communities, would be used mostly for low-density residential development with lot sizes ranging from 1 to 40 acres. A few tracts would be sold for community services such as the landfills at Chalfant, Benton, Bridgeport and Antelope Valley. All identified lands would be disposed of within the life of the RMP.

## **Alternative 2: Custodial Management**

### **Geothermal Resources Exploration and Development**

The likelihood of commercial geothermal development would be less than 5%. Otherwise the scenario is the same as for Alternative 1.

## **Locatable Mineral Exploration and Development**

An estimated 86% of the locatable mineral deposits are economically feasible for development. Projected activity includes 330 exploration projects and 40 new mines over the next 10 to 20 years. Of these, 17 are expected to be major projects (>100,000 tons, net value > \$10 million) involving 10 acres each for a total of 170 acres. Of the 17 major projects, 3 will be "super" projects, including the Bodie-Galactic Project. These will involve 25 acres or more of disturbance each for a minimum total of 75 acres. These "super" projects will employ up to 500 persons and make a significant contribution to the tax base of Mono and Inyo counties. The other projects will involve small deposits (<10,000 tons) and surface disturbances of less than 5 acres each. A total of 1,460 acres of surface disturbance is anticipated.

An estimated 14% of the locatable mineral deposits are marginally economic. These deposits are generally small (<10,000 tons) involving \$500,000 to \$1 million in gold or other locatable minerals. While these deposits may have upwards of \$1 million in mineralization, the cost of extraction may be 90% or more of this value. Hence, they will not proceed past the exploration stage.

The areas likely to experience development are those within or near existing mining districts.

## **Salable Mineral Exploration and Development**

88% of the salable mineral deposits can be developed. This will involve 138 exploration projects, 860 acres and 50 new mines/sales over the next 10 to 20 years. Of these, 14 are expected to be major projects (>100,000 cubic yards, net value > \$50,000) involving 10 acres each for a total of 140 acres. The other projects will involve small deposits (<1,000 cubic yards) and surface disturbances of less than 1 acre each.

12% of the salable mineral deposits would not be developed due to economic or environmental reasons.

## **Recreation Use and Development**

Under reduced funding of custodial management, greater unmanaged recreation use would be allowed in areas described in Alternative 1. Some significant activities that would contribute to regionwide recreation uses include sage grouse and deer hunting, wildlife observation, dispersed camping including Crowley

Lake Campground, and fishing. Additionally, 820 acres of waterfowl habitat would be available for hunting.

Activities and projected estimates for mountain biking, hot springs bathing, Bodie Bowl sightseeing and miscellaneous recreation are the same as in Alternative 1.

Activities on other Federal agency lands would be the same as in Alternative 1.

## **Land Development**

Same as scenario for Alternative 1.

## **Alternative 3: Natural Resource Enhancement**

### **Geothermal Resources Exploration and Development**

The scenario is the same as for Alternative 1.

### **Locatable Mineral Exploration and Development**

An estimated 68% of the locatable minerals deposits are economically feasible for development. This will involve 136 exploration projects, 565 acres, and 18 new mines over the next 10 to 20 years. Of these, 7 are expected to be major projects (>100,000 tons, net value > \$10 million) involving 10 acres each for a total of 70 acres. Of the 7 major projects, 2 will be "super" projects, including the Bodie-Galactic Project. These will involve 25 acres or more of disturbance each for a minimum total of 50 acres. These "super" projects will employ up to 500 persons and make a significant contribution to the tax base of Mono and Inyo counties. However, added environmental costs will result in only 50% of the deposits being mined compared to alternatives I and II. The other projects will involve small deposits (<10,000 tons) and surface disturbances of less than 5 acres each.

An estimated 32% of the locatable mineral deposits are marginally economic. These deposits are generally small (<10,000 tons) involving \$500,000 to \$1 million in gold or other locatable minerals. While these deposits may have upwards of \$1 million in mineralization, the cost of extraction may be 90% or more of this value. Hence, they will not proceed past the exploration stage.

The areas likely to experience development are those within or near existing mining districts.



## **Salable Mineral Exploration and Development**

An estimated 34% of the salable mineral deposits can be developed. This will involve 48 exploration projects, 150 acres and 14 new mines/sales over the next 10-20 years. Of these, 3 are expected to be major projects (>100,000 cubic yards, net value > \$50,000) involving 10 acres each for a total of 30 acres. The other projects will be small (>1,000 yards) involving less than 1 acre each.

An estimated 56% of the salable mineral deposits would not be developed due to economic or environmental reasons. Many pumice and dimension stone (Bishop Tuff) deposits cannot be developed in the Benton or Long Valley MAs.

## **Recreation Use and Development**

Under this alternative, Bureau lands would attract more primary destination users than in Alternatives 1 and 2. They would also receive spillover use from expected visitor increases on nearby USFS lands. The Bureau's proactive recreation management program which includes a visitor services emphasis, scenic byway designations, recreation trails construction, environmental interpretation, and an environmental education center would moderately enhance regional recreation opportunities and increase visitor use. The Bureau would play a greater role in regionwide recreation management.

Some significant activities that would generally increase on Bureau lands include sage grouse and deer hunting, mountain biking, wildlife observation, dispersed camping including Crowley Lake Campground, fishing, hot spring bathing, Bodie Bowl sightseeing (less than 188,000 visitors), and miscellaneous recreation. Over the long term, it is expected that the proposed environmental education center would receive up to 250,000 visitors per year. Additionally 1,015 acres of waterfowl habitat would be available for hunting.

Primary use areas include Slinkard ACEC, Topaz Lake, Conway Summit ACEC, Travertine Hot Springs ACEC, Bodie Hills, Bodie Mountain ACEC, South Tableland, Fish Slough ACEC, Crater Mountain ACEC, Inyo Mountains, Owens Valley creeks, and the Alabama Hills ACEC.

Activities on other Federal agency lands and private lands would be the same as in Alternative 1.

## **Land Development**

No Bureau land would be disposed of for private development. Agricultural use and residential development would be limited to private land; little expansion would be anticipated.

## **Alternative 4: Preferred Alternative**

### **Geothermal Resources Exploration and Development**

The scenario is the same as for Alternative 1.

### **Locatable Mineral Exploration and Development**

An estimated 70% of the locatable minerals deposits are economically feasible for development. This will involve 174 exploration projects, 685 acres and 18 new mines over the next 10 to 20 years. Of these, 9 are expected to be major projects (>100,000 tons, net value > \$10 million) involving 10 acres each for a total of 90 acres. Of the 14 major projects, 2 will be "super" projects, including the Bodie-Galactic Project. These will involve 25 acres or more of disturbance each for a minimum total of 50 acres. These "super" projects will employ up to 500 persons and make a significant contribution to the tax base of Mono and Inyo counties. However, added environmental costs will result in only 50% of the deposits being mined compared to Alternatives I and II. The other projects will involve small deposits (<10,000 tons) and surface disturbances of less than 5 acres each.

An estimated 30% of the locatable mineral deposits are marginally economic. These deposits are generally small (<10,000 tons) involving \$500,000 to \$1 million in gold or other locatable minerals. While these deposits may have upwards of \$1 million in mineralization, the cost of extraction may be 90% or more of this value. Hence, they will not proceed past the exploration stage.

The areas likely to experience development are those within or near existing mining districts.

### **Salable Mineral Exploration and Development**

An estimated 36% of the salable mineral deposits can be developed. This will involve 54 exploration projects, 160 acres and 18 new mines/sales over the next 10-20 years. Of these, 3 are expected to be major projects (>100,000 cubic yards, net value > \$50,000) involving

10 acres each for a total of 30 acres. The other projects will be small (>1,000 yards) involving less than 1 acre each.

An estimated 54% of the salable mineral deposits would not be developed due to economic or environmental reasons. Many pumice and dimension stone (Bishop Tuff) deposits cannot be developed in the Benton or Long Valley MAs.

## **Recreation Use and Development**

As in Alternative 3, the Bureau's proactive management emphasis would attract more primary destination visitors, and receive spillover use from nearby USFS lands. Developed opportunities on Bureau lands, as described in Alternative 3, would increase slightly to moderately in the long term. Recreation use would increase accordingly as the Bureau plays a greater role in regionwide recreation management.

Some significant activities on Bureau lands include sage grouse and deer hunting, dispersed camping including Crowley Lake Campground, and fishing. Additionally, 890 acres of waterfowl habitat would be available for hunting.

Activities and projected estimates for mountain biking, wildlife observation, hot springs bathing, Bodie Bowl sightseeing, environmental education center use, and miscellaneous recreation would be the same as in Alternative 3.

Primary use areas are the same as in Alternative 3.

Activities on other Federal agency lands would be the same as in Alternative 1.

## **Land Development**

The bulk of lands identified for disposal are in the Owens Valley and Benton MAs. These lands would be used mostly for agriculture such as alfalfa or row crops. A smaller portion of the disposals, including parcels near communities, would be used mostly for low-density residential development with lot sizes ranging from 1 to 40 acres. A few tracts would be sold for community services such as the landfills at Chalfant, Benton, Bridgeport and Antelope Valley. All identified lands would be disposed of within the life of the plan.

# **Impact on Visual Resources**

## **Alternative 1: No Action/Continuation of Present Management**

The Bureau lands in the Bishop Resource Area play an essential supporting role in the user's appreciation of regionwide scenery. In many cases, the subdued and gentle relief of Bureau lands occupies foreground/middleground viewsheds (0-5 miles) that augment the dramatic scenic background features on USFS lands. In some cases, Bureau lands comprise majestic viewscapes particularly in the Inyo Mountains, Granite Mountain, Slinkard Valley, Alabama Hills, etc. In the long term, Bureau scenic values will become more important as southern California's urban centers expand, and visitor appreciation of regionwide scenery grows.

Both the Inyo and Tolyabe National Forest plans recognize and emphasize the need to manage regionwide visual resources. Under this alternative, the Bureau's visual resource management would generally be compatible with prescribed direction in both Forest plans. The Bureau would manage 22% of its land as VRM II, and 69% as VRM III. Visual quality objectives for the Tolyabe National Forest prescribe 46% of USFS lands for retention and partial retention. The Inyo National Forest prescribes retention and partial retention along major roads, trails, and concentrated recreation areas. Minerals development would degrade visual resources in the Bodie Bowl. This unique and intact Historic Landmark would be severely degraded by an open pit mine.

The overall regionwide trend is to maintain or improve scenery in the eastern Sierra. Bureau areas that complement adjoining USFS scenic viewsheds include the Alabama Hills, the White Mountains, Mono Basin, Long Valley, Conway Summit, and Antelope and Little Antelope Valleys. LADWP lands are not managed primarily for scenic values. The minimal development that occurs on these lands would have little or no impact on Bureau management.

Future developments on 10,400 acres of Bureau land disposals would have the greatest visual impacts in the Benton, Owens Lake, and South Inyo MAs. Locatable minerals development would adversely affect short segments (between 20 and 50 miles) of viewsheds at specific locations along Federal, state and county roads. In particular, an open pit mine in the Bodie Bowl would severely impact visual values. New transmission lines in the Long Valley, Benton, and Owens Valley MAs would adversely affect visual values on 6 miles of viewsheds. Some slight to moderate localized benefits

to visual resources would occur from 1) private land acquisitions, especially in the Coleville MA; 2) route designations, especially in Bridgeport, Long Valley, Bodie Hills, and Owens Valley MAs where hillside road scars would be eliminated; 3) wildlife habitat management which would maintain uniform vegetative cover; and 4) a management emphasis to protect geologic values in the Alabama Hills SRMA.

### **Conclusion:**

Generally, visual resources would remain about the same. Localized benefits would be outweighed by slight to extreme adverse impacts at site specific areas. Some positive impacts would be realized as a result of specific actions to improve visual resources.

## **Alternative 2: Custodial Management**

The Bureau's visual resource management would be less compatible with the direction of USFS management than in Alternative 1. The Bureau decision to manage 93% of its land as VRM III and IV would allow more visual impacts than USFS direction under the more restrictive retention and partial retention objectives. Developments on Bureau lands in less restrictive VRM classes would include major rights-of-way, community expansion, mineral material sites, etc. In some cases, it would degrade viewsheds complementing USFS scenery. These Bureau lands include the White Mountain alluvial fans, Long Valley, Conway Summit, and Mono Basin. As described in Alternative 1, mineral development would degrade visual resources in the Bodie Bowl.

Additionally, LADWP lands are not managed primarily for scenic values. The minimal development that occurs on these lands would have little or no impact on Bureau management.

Disposals, mineral developments, and new transmission lines would have the same physical impacts as in Alternative 1. Some slight benefits to visual values would occur from route designations and protection of geologic values in the Alabama Hills SRMA.

### **Conclusion:**

Overall, visual resources would be degraded from designation of several management areas to less restrictive VRM Classes. This allows greater visual degradation on 260,000 acres of Bureau land.

## **Alternative 3: Natural Resource Enhancement**

Under this alternative, Bureau management of visual resources would be most compatible with the regionwide trend to maintain or improve scenery in the eastern Sierra. The Bureau decision to manage 92% of its land as VRM II (40%) and III (52%) would allow for less visual impacts than Alternatives 1 and 2. The increased emphasis on visual resource protection would be more complementary with USFS management of its scenic values. In particular, Bureau areas with more restrictive VRM classes than in Alternative 1 include the Slinkard Valley ACEC, the Conway Summit ACEC, the Bodie Hills, Granite Mountain, Crater Mountain ACEC and the Volcanic Tableland.

Most significantly, visual degradation of the Bodie National Historic Landmark would be constrained as a result of a proposed mineral withdrawal. Mining claims with valid existing rights could be developed and degrade the area's scenic values.

LADWP lands are not managed primarily for scenic values. The minimal development that occurs on these lands would have little or no impact on Bureau management.

Various acquisitions totalling over 33,000 acres, several mineral withdrawals (totalling 30,000 acres) including the Bodie Bowl National Historic Landmark, application of the more restrictive VRM Class I (8%) and II (40%) standards to scenic viewsheds, and proactive land use prescriptions (e.g. yearlong and seasonal protections, salable mineral prohibitions, etc.) designed to eliminate visual impacts benefit visual resources significantly in much of the resource area. Route designations would benefit local visual resources more than Alternatives 1 and 2 because of greater VRM class restrictions and wildlife habitat protection. Significant areas benefitted by this alternative include Slinkard Valley and Conway Summit ACECs, Bodie Bowl, Mono Basin, Granite Mountain, south Tableland, Crater Mountain ACEC, Virginia Creek, and the Alabama Hills ACEC. The increased emphasis to improve wildlife habitat (DPC) and watershed conditions would provide additional benefits to scenery on over 114,000 acres. Locatable minerals development would have some slight to moderate negative impacts on short segments of viewsheds (up to 30 miles) along Federal, state and county roads.

### **Conclusion:**

Visual resources would undergo moderate to high improvements under this Alternative.



## Alternative 4: Preferred Alternative

The cumulative impacts of this alternative would be the same as in Alternative 3, except that the proposed mineral withdrawal in the Bodie Bowl would not apply. Instead, a restriction limiting minerals development would apply. Acquisitions totalling 12,000 acres, a mineral withdrawal, minerals restrictions in the Bodie Bowl, a more restrictive VRM Class I (6%) and II (40%), and proactive land use prescriptions (e.g. yearlong and seasonal protections, salable minerals prohibitions, etc.) designed to eliminate visual impacts considerably benefit visual resources in much of the resource area. Impacts to visual resources from route designations would be the same as Alternative 3. Significant areas benefitted include the Slinkard Valley and Conway Summit ACECs, Bodie Bowl, Mono Basin, Granite Mountain, south Tableland, Crater Mountain ACEC, Virginia Creek and the Alabama Hills SRMA. The increased emphasis to improve wildlife habitat and watershed conditions would provide additional benefits to scenery in 105,000 acres. Adverse visual impacts would occur on a localized basis in several parts of the resource area. Future developments on over 3,000 acres of disposals in the Benton MA would degrade visual resources along short portions (7-8 miles) of Highway 6. Locatable mineral development would adversely affect short segments of viewsheds (between 20 and 40 miles) at specific locations along Federal, state and county roads. New transmission lines in the Benton and Owens Valley MAs would adversely affect visual values along at least 3 miles of viewsheds.

### Conclusion:

Under this alternative, there would be an overall slight to moderate improvement of visual resources.

## Impact on Recreation Opportunities

### Alternative 1: No Action/Continuation of Present Management

Bureau lands sustain a minority of recreation use (between 15 and 20%) that occurs regionwide. However, Bureau lands provide an array of year-round recreation opportunities to area visitors. Use occurs mainly in spring, summer, and fall with some winter use concentrated in northern portions of the area. Bureau lands provide some alternative recreation opportunities for area visitors, which diversifies and enhances available experiences and physical settings.

Under Alternative 1, the existing recreation opportunities and their management would be compatible with USFS and LADWP management. The Forest plans emphasize some proactive management such as developing concentrated recreation sites (e.g. campgrounds, trails, etc.) and promoting dispersed use and interpretive development. The Bureau would complement this direction by maintaining and improving some existing recreation programs. As a result, user satisfaction would range between average to above average.

Although areawide route designations would in the long term enhance OHV recreation opportunities by maintenance of semi-primitive settings, some OHV access and dispersed camping opportunities would be lost in seasonal protection areas, sensitive viewsheds, wetlands, etc. However, displaced OHV users would find ample opportunities to experience OHV loop and point-to-point trips in the resource area. Areawide route designations would result in improved signing, and enhanced OHV image, route/touring maps, and enhanced scenic and wildlife observation opportunities. These measures would maintain or increase the OHV users' opportunity to enjoy semi-primitive values in the resource area. Additionally, Bureau land disposals in the southeast portion of the Benton MA would displace local OHV use opportunities to adjoining USFS land.

Generally, deer and sage grouse hunting opportunities would undergo slight to moderate adverse impacts. Hunting would be most affected in the popular use areas - Bridgeport Valley, Bodie Hills, Long Valley and Owens Valley MAs. A minor loss of hunting opportunities would occur within a 200 yard radius of Bodie State Park from a shooting prohibition to increase safety hazards around the park. Hunters would easily relocate to other areas. There would be a negligible 1% (10 acres) increase in waterfowl hunting opportunities under this alternative.

Mineral development in the Bodie Bowl and at Golden Gate Mine would severely degrade historic values and recreation opportunities. A major mining operation at the Bodie Bowl would be incompatible with the recreation and historic values of the area. In the long term visitor use at the Bowl would drop from the present 188,000 visitors per year and decrease outlying recreation use on Bureau lands as well.

Semi-primitive values in the Bridgeport Valley, Bodie Hills, and South Inyo MAs would be locally changed by mineral development at Potato Peak, the foothills of the Inyos, and along Dog and Virginia Creeks. New mineral material sites in the south Tableland would impair natural values and increase trash, vandalism and plinking.

Hot tub/spring use in Bridgeport Valley would increase moderately due to Travertine Hot Springs' growing popularity. The Bureau's increased focus to enhance and integrate recreation use with other resources values would protect the area but result in closure of some hot tubs to better manage T&E species. Nearby firearms shooting would continue to be hazardous to area visitors. Hot tub use in Long Valley would remain the same.

Recreation values would be moderately improved from protection of geologic features, camping/picnicking restrictions, site rehabilitation, etc. in the Alabama Hills SRMA. Sightseeing values would be maintained and restored, enhancing area recreation opportunities.

Visitation in the Long Valley and Benton MAs would increase from the growing popularity of sage grouse observation, and the increased visitor's services and environmental interpretation emphasis at the Fish Slough ACEC.

Recreation increases from changing visitor use patterns and discovery of Bureau recreation opportunities would occur in mountain biking, dispersed camping and miscellaneous recreation. No change in Crowley Lake Campground use or in fishing opportunities is expected.

## Conclusion:

Overall, recreation opportunities would remain about the same with some local declines offsetting various benefits. Areawide route designations would reduce some OHV access and dispersed camping but improve the overall quality of semi-primitive OHV touring experiences and physical settings. Deer and sage grouse hunting would be adversely affected in several management areas. Wildlife observation opportunities would improve due to the Bureau's wildlife management emphasis at the Fish Slough ACEC. Minerals development would severely degrade historic and semi-primitive values in the Bodie Hills (especially the Bodie Bowl), Bridgeport Valley, Coleville, and South Inyo MAs. Hot tub/spring use at Travertine Hot Springs would increase although some hot tubs may be closed to protect T&E species.

## Alternative 2: Custodial Management

Under this alternative, Bureau management of recreation opportunities would be compatible with that of other agencies in the region. Little proactive management would occur. With limited funding, the Bureau would emphasize mitigation of resource conflicts on a

reactive basis. The Bureau would not maintain or enhance recreation opportunities and experiences. This deficiency would limit the range of recreation enhancement potential regionwide. Area visitors would experience average to below average use satisfaction on Bureau land. Additionally mineral development would degrade recreation opportunities in the Bodie Bowl.

Areawide route designations would minimally enhance OHV recreation opportunities. Resource problems related to OHV access and dispersed camping would be mitigated on a case-by-case basis. Access and camping restrictions would be implemented on a priority basis dependent on funding and personnel. Semi-primitive values would be subject to unchecked degradation. Signing and maps would be minimal or nonexistent. As in Alternative 1, land disposal in the southeast portion of the Benton MA would displace local OHV use opportunities to adjoining USFS land.

Deer and sage grouse hunting opportunities would be moderately to severely impaired from habitat and population losses due to livestock grazing, minerals development, disposals, recreation use, etc. A loss of deer and sage grouse hunting opportunities would occur in the long term in Bridgeport Valley, Bodie Hills, Long Valley and Owens Valley MAs. A minor loss of hunting opportunities within a 200 yard radius of Bodie State Park would result from a shooting prohibition to increase safety around the park. Hunters would be able to relocate to other areas. There would be no change in waterfowl hunting opportunities under this alternative.

Impacts to historic and semi-primitive values would be the same as in Alternative 1.

Hot tub/spring use and impacts would be the same as in Alternative 1.

Recreation values in the Alabama Hills would be maintained or slightly improved by protection of geologic features and aesthetic values. The reduced management emphasis would result in a reactive approach to site management.

Wildlife observation visits in the Benton MA, particularly in the Fish Slough ACEC, would increase substantially from a visitor services and environmental interpretation emphasis. In the Long Valley MA, sage grouse observation use would decrease from habitat and population loss.

Fishing opportunities would decline moderately (an average greater than 20% loss) from habitat loss due to minerals development, livestock grazing, water



diversions, etc. The most popular creeks affected would be in the Coleville, Bridgeport, and Owens Valley MAs.

Closure of Crowley Lake Campground would displace 2,500 campers per year to other nearby locations. Their camping costs would increase as they relocated to more expensive campgrounds. Dispersed camping outside developed sites would increase slightly.

Recreation increases from changing visitor use patterns and discovery of Bureau recreation opportunities would occur in mountain biking and miscellaneous recreation.

### Conclusion:

Overall, recreation opportunities would remain about the same although moderate adverse impacts to various opportunities would occur in the resource area. Area-wide route designations would reduce OHV access and dispersed camping restrictions. Semi-primitive settings would be maintained on a case-by-case basis. Deer and sage grouse hunting as well as fishing opportunities would be moderately to severely degraded from habitat loss related to disposals, minerals development, water diversions, etc. The closure of Crowley Lake Campground would displace 2,500 campers per year. Wildlife observations would increase at the Fish Slough ACEC but decrease in Long Valley. Minerals development would severely degrade historic and local semi-primitive values in the Bodie Hills, Bridgeport Valley, Coleville and South Inyo MAs. Hot tub/spring use at Travertine Hot Springs would increase although some hot tubs may be closed to protect T&E species.

### Alternative 3: Natural Resource Enhancement

Under this alternative, Bureau management of recreation opportunities is most compatible with other agencies in the region. The Tolyabe and Inyo National Forest's plans strongly complement the Bureau's emphasis to develop a recreation program to 1) enhance semi-primitive dispersed opportunities; 2) provide for environmental interpretation; and 3) improve recreation values. Significant areas include Slinkard Valley and Conway Summit ACECs, Bodie Bowl, Mono Basin, Granite Mountain, Volcanic Tableland, Crater Mountain ACEC, Alabama Hills SRMA, and the South Inyos. The development of an environmental education center would have significant regionwide impacts. Ultimately, it would become a major focus for environmental education programs and opportunities attracting area and out-of-area visitors.

This alternative would provide recreation opportunities and experiences resulting in a user satisfaction level of above average to high.

The Bureau's proactive program augments the recreation opportunities and experiences on the USFS and LADWP lands. It optimizes regionwide recreation opportunities and will meet future increases in recreation use.

Route designation impacts would be similar to Alternative 1 although greater restrictions on access and camping are expected due to increased protection of scenic viewsheds, wildlife habitats, wetlands, and riparian areas. Snowmobiling would be prohibited on 5,700 acres of sage grouse wintering areas in the Bodie Hills MA, particularly around Bridgeport Canyon and Dry Lakes Plateau where low use would result in little impact to snowmobilers. Additionally, retention of Bureau lands in the southeast portion of the Benton MA would maintain local OHV opportunities. Finally, more restrictive VRM classes would mitigate or close some additional hillside road scars along key observation points, and improve sightseeing values.

Deer, sage grouse and waterfowl hunting opportunities would increase moderately. The highest increase in opportunities for deer hunting would occur in the Coleville, Bridgeport Valley, Bodie Hills, Long Valley, and South Inyo MAs. Sage grouse hunting would improve in the Bodie Hills and Long Valley. A loss of deer and sage grouse hunting opportunities on about 7,200 acres in the Bodie Bowl would occur due to the shooting prohibition. Inconvenienced hunters would find other more limited opportunities outside the Bowl. Waterfowl hunting opportunities would become available from habitat improvements primarily in the Bodie Hills. Approximately 205 acres of additional waterfowl habitat would be available.

Yearlong protection and a shooting prohibition would augment recreation values in the Bodie Bowl. These actions would provide measures to maintain the area's historic values, protect visitors from stray gunfire, and ensure protection of historic and natural features. In the long term, visitor use would decrease from 188,000 per year. The proposed mineral withdrawal in the Bodie Bowl would preclude new mining claims and help protect the area's recreation values. However, valid existing claims could still be developed and have the same impacts as in Alternative 1. Impact to historic values at Golden Gate Mine would be the same as in Alternative 1.

Semi-primitive values in the Bridgeport Valley and South Inyo MAs would significantly improve from a

minerals withdrawal in the southern Inyo foothills (22,618 acres) and along Virginia Creek and the upper reaches of Dog Creek. Mineral development will have a negative impact on semi-primitive values near the confluence of Virginia and Dog Creeks. Yearlong protection of the south Tableland would maintain natural values in perpetuity. The portion of Dog Creek and Virginia Creek under the present mineral withdrawal (160 acres) would be protected in the long term.

Hot tub/spring use would increase moderately in Bridgeport Valley due to the Travertine Hot Springs' growing popularity. The Bureau's increased focus to enhance and integrate recreation use with other resource values would better protect the area but result in closure of some hot tubs to manage T&E species. The shooting prohibition reduces gunfire hazards while a mineral withdrawal and yearlong protection would protect the area's geologic features. In the Long Valley MA, hot tub/spring use would increase moderately in the long term, due to the increased recreation management emphasis for the area. Some hot tubs would be closed or mitigated to protect wildlife or wetlands. Users would relocate to other hot tubs in the area.

Improvement of recreation values in the Alabama Hills would be the same as Alternative 1.

Wildlife observation would increase substantially in the Coleville, Long Valley and Benton MAs from improved sage grouse observation opportunities in Long Valley, and from increased visitor services and environmental interpretation emphasis in the Slinkard Valley and Fish Slough ACECs.

Fishing opportunities in the Coleville, Bodie Hills, Bridgeport Valley and Owens Valley MAs would increase an average of 30% due to livestock grazing restrictions, diversion limitations, and habitat improvement projects.

Crowley Lake Campground users would relocate to the new campground location or other sites. Crowley Lake use and other dispersed camping would increase moderately. Camping use at Virginia Creek in the Bridgeport Valley MA would decline about 13% (500 visitors) in order to meet VRM Class I standards and DPC criteria. Unacceptable sites would be closed or mitigated to meet these standards. Campers would relocate to other areas.

The most significant overall improvement under this alternative would be the recreation management emphasis to enhance site opportunities and visitor use. This comprehensive management approach would increase the quality of recreation experiences in the resource area. The prescriptions to improve recreation

opportunities and experiences would include 1) acquisition of 24,000 acres of private land, 2) ten scenic byway designations, 3) provision of environmental interpretation and other visitor services, 4) development of several primitive recreation trails, 5) construction of an environmental education center, 6) management to protect and rehabilitate scenic resources, and 7) promotion of dispersed semi-primitive recreation activities. This emphasis would increase mountain biking use and miscellaneous use substantially. Finally, the development of an environmental education center would attract as much as 250,000 visitors per year in the long term.

## Conclusion:

Overall, a moderate to high beneficial impact to recreation opportunities and values would occur throughout the resource area. Area-wide route designations would reduce OHV access and dispersed camping opportunities more than Alternative 1, although semi-primitive values would be improved. Hunting and fishing opportunities would improve in the more popular portions of the resource area. Wildlife observation would improve due to the Bureau's management emphasis on wildlife. Historic values would be maintained in the Bodie Bowl by yearlong protection; semi-primitive values in Bridgeport Valley and the South Inyo MA would be protected by a mineral withdrawal. Finally, the increased management emphasis to improve and develop recreation opportunities would enhance the visitor's recreation experience on Bureau land. The provision of visitor services, promotion of dispersed semi-primitive recreation uses, and improved management of scenic resources would increase visitation and user satisfaction.

## Alternative 4: Preferred Alternative

The regional impacts of this alternative would be the same as Alternative 3.

Route designation impacts would be the same as Alternative 3 except that two additional 4WD connector routes to form a loop trail in the Bodie Hills are proposed. Secondly, Bureau land disposal in the southeast portion of the Benton MA would displace local OHV use opportunities to adjoining USFS land.

Deer, sage grouse and waterfowl hunting opportunities would increase slightly to moderately. The highest increases would occur in the Coleville, Bridgeport Valley, Bodie Hills, Long Valley, and South Inyo MAs while 80 acres of available waterfowl habitat would occur in the Bodie Hills. A loss of deer and sage

grouse hunting opportunities on about 7,200 acres in the Bodie Bowl ACEC would occur due to the shooting prohibition. Inconvenienced hunters would find other more limited opportunities outside the Bowl.

Historic values at the Bodie Historic National Landmark would be maintained due to mineral development restrictions. Visitor use would increase slightly above the present 188,000 visitors per year. Yearlong protection and a shooting prohibition in the Bodie Bowl would have the same impacts identified in Alternative 3. The Golden Gate Mine would be subject to the same mineral development impacts identified in Alternative 1.

Semi-primitive values in the Bodie Hills and South Inyo MAs would be degraded by mineral development at Potato Peak and the foothills of the South Inyos. A proposed mineral withdrawal on the Pat Keyes trail, most portions of Virginia Creek and the upper reaches of Dog Creek would ensure long term protection of naturalness in these areas. Mineral development will have a negative impact on semi-primitive values near the confluence of Virginia and Dog Creeks. A salable mineral prohibition in south Tableland would maintain natural values in perpetuity. The portions of Dog Creek and Virginia Creek under the present mineral withdrawal (160 acres) would be protected in the long term.

Hot tub/spring use in the Bridgeport Valley and Long Valley MAs would be the same as in Alternative 3.

Impacts to the Alabama Hills SRMA recreation values would be the same as in Alternative 1.

Wildlife observation in the Coleville, Long Valley and Benton MA would be the same as in Alternative 3.

Fishing opportunities in Coleville, Bridgeport Valley, Owens Valley and Bodie Hills MAs would increase an average of 26% due to livestock grazing restrictions, diversion limitations, and habitat improvement projects.

Crowley Lake Campground would remain at its present location and use would increase due to a greater management emphasis for the Long Valley MA. Crowley Lake Campground and other dispersed camping would increase moderately. Camping use at Virginia Creek would undergo the same impacts as in Alternative 3.

The beneficial impacts of a recreation management emphasis at the highest recreation opportunity areas would be somewhat less than Alternative 3. Although the program would remain the same as described in Alternative 3, scenic byway designations would be

reduced to eight and acquisitions to enhance recreation values and consolidate management would total 12,000 acres. The most significant acquisition, not identified in any prior alternative, would be 1,700 acres at Manzanar. Bureau acquisition and management of this historic site would include stabilization of physical features and interpretive development.

Projected use figures for the environmental education center, mountain biking, and miscellaneous recreation would be the same as in Alternative 3.

## Conclusion:

Overall, a slight to moderate beneficial impact to recreation opportunities and values would occur throughout the resource area. Area-wide route designations would reduce OHV access and dispersed camping opportunities more than Alternative 1, although semi-primitive values would be improved. Hunting and fishing opportunities would improve in the more popular portions of the resource area. Wildlife observation would improve due to the Bureau's management emphasis on wildlife. Mineral development would severely degrade historic and local semi-primitive values at Potato Peak in the Bodie Hills MA; a small portion of Dog Creek in Bridgeport Valley MA; and portions of the Coleville and South Inyo MAs. Existing and proposed mineral withdrawals or restrictions would benefit the Bodie National Historic Landmark and natural values at Virginia and Dog Creeks. Finally, the increased management emphasis to improve and develop recreation opportunities would enhance the visitor's recreation experience on Bureau land. Visitor services, an environmental education center, promotion of dispersed semi-primitive recreation uses, and improved management of scenic resources would increase visitation and user satisfaction.

## Impact on Sage Grouse and Quail

### Alternative 1: No Action/Continuation of Present Management

Regionwide actions affecting habitat for sage grouse, California quail, and mountain quail include locatable and geothermal mineral development, livestock grazing, riparian habitat degradation and increasing levels of recreational use. All actions do not affect each species.

Regionwide actions affecting sage grouse are generally located in the Long Valley, Fales Hot Springs, and



Masonic Mountain areas. Nesting, brood rearing, and summer habitat for the Long Valley sage grouse population would be moderately to heavily impacted over the next 20 years. Actions specifically degrading or eliminating habitat include additional geothermal developments, locatable mineral development, continuation of early season cattle grazing on private meadow and riparian habitats, increasing levels of habitat degradation from recreational activities on private land, and the lack of sagebrush habitat in early to mid-seral successional stages. The Fales and Masonic sage grouse populations are affected by livestock grazing, locatable mineral development, road construction, and some recreational use activities. Sage grouse populations have been significantly reduced over the past 20 years.

Regionwide actions affecting the quantity and quality of quail (primarily California quail) habitat include livestock grazing and other uses impacting riparian areas. Dewatering of numerous stream reaches in the Owens Valley has caused a significant decline in habitat quality and quail numbers.

Locatable mineral development and early season livestock grazing on Bureau land compounds the negative effect of regionwide actions on sage grouse, particularly in the Long Valley area. Overall, a minimum 5% reduction of sage grouse numbers can be expected in Long Valley. Grazing (season-long continuous) and locatable mineral development elsewhere (e.g. the Bodie Hills) would combine with regionwide activities to continue a persistent decline in habitat quality and sage grouse numbers. Positive management actions on Bureau land for sage grouse habitat would partially offset mineral and livestock impacts, but overall sage grouse populations would be reduced up to 18%.

### **Conclusion:**

Cumulatively, regional impacts to sage grouse habitat and populations will add significantly to the loss or degradation of habitat occurring on Bureau land for two grouse populations. Bureau disposals and mineral development would remove habitat for up to 11% of the Owens Valley quail populations and contribute to a trend of degrading and eliminating quail habitat on a regional basis.

## **Alternative 2: Custodial Management**

Regionwide actions affecting habitat for sage grouse, California quail, and mountain quail include locatable and geothermal mineral development, livestock

grazing, riparian habitat degradation and increasing levels of recreational use. All actions do not affect each species.

Regionwide actions affecting sage grouse are generally located in the Long Valley, Fales Hot Springs, and Masonic Mountain areas. Nesting, brood rearing, and summer habitat for the Long Valley sage grouse population would be moderately to heavily impacted over the next 20 years. Impacts from non-Bureau actions include habitat loss to geothermal developments, locatable mineral development, continuation of early season cattle grazing on private meadow and riparian habitats, increasing levels of habitat degradation from recreational activities on private land, and the lack of sagebrush habitat in early to mid-seral successional stages. The Fales and Masonic sage grouse populations are affected by livestock grazing, locatable mineral development, road construction, and some recreational use activities. Sage grouse populations have been significantly reduced over the past 20 years.

Regional actions affecting the quantity and quality of quail (primarily California quail) habitat include livestock grazing and other uses impacting riparian areas. Dewatering of numerous stream reaches in the Owens Valley has contributed significantly to the decline in habitat quality and overall numbers.

Locatable mineral development and season-long continuous livestock grazing on Bureau lands compounds the negative effects of other regional actions on sage grouse, particularly in the Long Valley area. Habitat degradation would diminish the Long Valley population up to 21%. Grazing (season-long continuous) and mineral development elsewhere (e.g. the Bodie Hills) would combine with regionwide activities to continue the persistent loss in sage grouse numbers. Positive management actions on Bureau land would slightly offset mineral and livestock impacts. Overall, sage grouse populations would be reduced up to 40%.

### **Conclusion:**

Cumulatively, regional impacts to sage grouse habitat and populations will add significantly to the loss or degradation of habitat occurring on Bureau land for two grouse populations. Bureau actions would contribute significantly to the regional impacts on sage grouse. Bureau disposals and mineral development would remove habitat for up to 11% of the Owens Valley quail populations and contribute to a regional trend of degrading or eliminating quail habitat.

## Alternative 3: Natural Resource Enhancement

Regionwide actions affecting habitat for sage grouse, California quail, and mountain quail include locatable and geothermal mineral development, livestock grazing, riparian habitat degradation, and increasing levels of recreational use. All actions do not affect each species.

Regionwide actions affecting sage grouse are generally located in the Long Valley, Fales Hot Springs, and Masonic Mountain areas. Nesting, brood rearing, and summer habitat for the Long Valley sage grouse population would be moderately to heavily impacted over the next 20 years. Actions specifically degrading or eliminating habitat include additional geothermal development, locatable mineral development, continuation of early season cattle grazing on private meadow and riparian habitats, increasing levels of key habitat degradation from recreational activities on private land, and the lack of sagebrush habitat in early to mid-seral successional stages. The Fales and Masonic sage grouse populations are affected by livestock grazing, locatable mineral development, road construction and some recreational use activities. Sage grouse populations have been significantly reduced over the past 20 years.

Actions affecting quail (primarily California quail) habitat include livestock grazing and other uses impacting the quality of available riparian areas. Dewatering of numerous stream reaches in the Owens Valley has contributed significantly to the decline of quail habitat and overall numbers.

Bureau actions would positively affect sage grouse habitat and population levels. Sage grouse populations would increase 15% through overall improvement in key habitat quality despite impacts from locatable minerals and livestock grazing. Quail habitat quality would similarly improve and result in a 10% increase within concentration areas.

### Conclusion:

Cumulatively, regionwide sage grouse habitat and populations would be slightly degraded due to impacts on other lands, despite the significant positive effects from Bureau actions. Quail populations would be affected in a similar manner.

## Alternative 4: Preferred Alternative

Regionwide actions affecting habitat for sage grouse, California quail, and mountain quail include locatable

and geothermal mineral development, livestock grazing, of riparian habitat degradation, and increasing levels of recreational use. All actions do not affect each species.

Regionwide actions affecting sage grouse are generally located in the Long Valley, Fales Hot Springs, and Masonic Mountain areas. Nesting, brood rearing, and summer habitat for the Long Valley sage grouse population would be moderately to heavily impacted over the next 20 years. Actions specifically degrading or eliminating habitat include additional geothermal developments, locatable mineral development, continuation of early season cattle grazing on private meadow and riparian habitats, increasing levels of key habitat degradation from recreational activities on private land, and the lack of sagebrush habitat in early to mid-seral successional stages. The Fales and Masonic sage grouse populations are affected by livestock grazing, locatable mineral development, road construction, and some recreational use activities. Sage grouse populations have been significantly reduced over the past 20 years.

Actions affecting the quantity and quality of quail (primarily California quail) habitat include livestock grazing and other uses impacting riparian areas. Dewatering of numerous stream reaches in the Owens Valley has contributed significantly to a decline of quail habitat and overall numbers.

Overall, Bureau actions would slightly improve sage grouse habitat and population levels. Sage grouse populations would increase up to 6% through improvement of key habitats despite impacts for locatable mineral and livestock grazing activities. Quail habitat quality would be degraded and lost through land disposals and other actions. Areawide quail populations would decrease up to 7%.

### Conclusion:

Cumulatively, sage grouse habitat and populations would be slightly diminished despite the small positive effect from Bureau actions. Bureau actions would contribute to the decline in quail habitat quality and numbers regionwide.

## Impact on Mule Deer

### Alternative 1: No Action/Continuation of Present Management

Regionwide actions affecting mule deer habitat include locatable and geothermal mineral development, livestock grazing, highway expansion, ski area devel-



opment, hydroelectric projects, increasing levels of recreational use, and residential/ commercial development. Migration corridors and holding areas, primarily for the Sherwin, Buttermilk, and Casa Diablo deer herds, would be heavily impacted over the next 20 years.

New developments such as highway expansion, and residential and ski area developments would fragment habitat in migration corridors and holding areas. This would reduce vegetation and eliminate traditional migration routes used by 6,000 deer. Deer mortalities from vehicle collisions substantially reduce the regional deer population.

Livestock on migration corridors and winter ranges compete with mule deer for important forage resources, particularly in the Sherwin, Buttermilk, Casa Diablo and Mono Lake herd areas. Livestock also degrade riparian zones and severely reduce forage and cover needed for fawns and does. Hydroelectric projects along some major streams have eliminated or reduced the size of riparian areas, negatively affecting deer habitat.

Bureau land disposals for agricultural and community development would exacerbate the effects of development on the Sherwin, Buttermilk, Casa Diablo, Mono Lake, and West Walker deer herds. Locatable mineral development on Bureau land would contribute to a general trend of key deer habitat loss on migration corridors and winter and summer ranges. Bureau livestock grazing practices will also contribute to a downward trend in summer range/migratory corridor conditions for the East Walker, Mono Lake and Casa Diablo deer herds.

### **Conclusion:**

Actions on Bureau land will have a slight to moderate negative impact on six deer herds. Cumulatively, regionwide habitat and population levels would be substantially degraded.

### **Alternative 2: Custodial Management**

Regionwide actions affecting mule deer habitat include locatable and geothermal mineral development, livestock grazing, highway expansion, ski area development, hydroelectric project construction, increasing levels of recreational use, and residential/commercial development. Migration corridors and holding areas, primarily for the Sherwin, Buttermilk, and Casa Diablo deer herds, would be heavily impacted over the next 20 years.

New developments such as highway expansion, and residential and ski area developments would fragment habitat in migration corridors and holding areas. This would reduce vegetation and eliminate traditional migration routes used by 6,000 deer. Deer mortalities from vehicle collisions substantially reduce the regional deer population.

Livestock on migration corridors and winter ranges compete with mule deer for forage, particularly in the Sherwin, Buttermilk, Casa Diablo and Mono Lake herd areas. Livestock also degrade riparian zones, and severely reduce forage and cover needed for fawns and does. Hydroelectric projects along some major streams have eliminated or reduced the size of riparian areas, negatively affecting deer habitat.

Bureau land disposals for agricultural and community development would exacerbate the effects of development on the Sherwin, Buttermilk, Casa Diablo, Mono Lake, and West Walker deer herds. Locatable mineral development on Bureau land would contribute to a general trend of habitat loss on migration corridors and winter and summer ranges. Bureau livestock grazing practices will also contribute to a downward trend in summer range/migratory corridor conditions for the East Walker, Mono Lake, and Casa Diablo deer herds.

### **Conclusion:**

Actions on Bureau land would have a moderate to high negative impact on six deer herds. Cumulatively, regionwide habitat and populations levels would be severely degraded.

### **Alternative 3: Natural Resource Enhancement**

Regionwide actions affecting mule deer habitat include locatable and geothermal mineral development, livestock grazing, highway expansion, ski area development, hydroelectric project construction, increasing levels of recreational use, and residential/commercial development. Migration corridors and holding areas, primarily for the Sherwin, Buttermilk, and Casa Diablo deer herds, would be heavily impacted over the next 20 years.

New developments such as highway expansion, and residential and ski area developments would fragment habitat in migration corridors and holding areas. This would reduce vegetation and eliminate traditional migration routes used by 6,000 deer. Deer mortalities from vehicle collisions substantially reduce the regional deer population.

Livestock on migration corridors and winter ranges compete with mule deer for forage, particularly in the Sherwin, Buttermilk, Casa Diablo and Mono Lake herd areas. Generally, grazing degrades riparian zones and severely reduces forage and cover needed for fawning. Hydroelectric projects along some major streams have eliminated or reduced the size of riparian areas, negatively affecting deer habitat.

Overall, Bureau actions would significantly increase deer habitat quality from the current situation. Deer populations on winter ranges and summer ranges would increase up to 5%. The Bureau components of migration corridors and winter ranges would be managed for their value to mule deer. Acquisitions of large sections of private land would protect migration corridors and summer ranges from development. The Sherwin, Buttermilk, Casa Diablo, Mono Lake and West Walker deer herds would benefit the most from Bureau measures to protect and improve habitat conditions.

### **Conclusion:**

Actions on Bureau land would improve deer habitat quality, and create conditions for a slight population increase in some deer herds. Cumulatively, regionwide deer habitat and populations would be slightly to moderately degraded due to substantial negative impacts on other lands.

### **Alternative 4: Preferred Alternative**

Regionwide actions affecting mule deer habitat include locatable and geothermal mineral development, livestock grazing, highway expansion, ski area development, hydroelectric project construction, increasing levels of recreational use, and residential/commercial development. Migration corridors and holding areas, primarily for the Sherwin, Buttermilk, and Casa Diablo deer herds, would be heavily impacted over the next 20 years.

New developments such as highway expansion, and residential and ski area developments would fragment habitat in migration corridors and holding areas. This would reduce vegetation and eliminate traditional migration routes used by 6,000 deer. Deer mortalities from vehicle collisions substantially reduce the regional deer population.

Livestock on migration corridors and winter ranges compete with mule deer for forage, particularly in the Sherwin, Buttermilk, Casa Diablo and Mono Lake herd areas. Generally, grazing degrades riparian zones and severely reduces forage and cover needed for fawning.

Hydroelectric projects along some major streams have eliminated or reduced the size of riparian areas, negatively affecting deer habitat.

Generally, Bureau actions would significantly increase deer habitat quality from the current situation. Deer populations on winter and summer ranges would increase up to 2%. The Bureau components of migration corridors and winter ranges would, generally, be managed for their value to mule deer. Acquisition of private parcels would protect migration corridor/winter range areas from development. The West Walker, Mono Lake, Sherwin and Buttermilk deer herds would benefit the most from Bureau actions to protect and improve habitat conditions.

### **Conclusion:**

Actions on Bureau land would improve deer habitat quality, and create conditions for a very slight population increase in some deer herds. Cumulatively, regionwide deer habitat and populations would be moderately degraded due to substantial negative impacts on other lands.

## **Impact on Tule Elk**

### **Alternative 1: No Action/Continuation of Present Management**

Actions influencing vegetation conditions and disturbance of calving areas would continue to be the primary factors impacting tule elk habitat in the region. Continued export of surface and subsurface water resources from the Owens Valley by the LADWP is expected to lower water tables and result in a subsequent loss of forage quality and quantity. Combined with existing livestock use, a slight to moderate negative impact to tule elk forage resources would occur. The increase of forage allocated to elk on one BLM allotment would have a slight positive impact on overall forage conditions. The disposal of BLM lands in the Owens Valley for community expansion or agricultural development would result in the direct loss of habitat or increased conflicts between ranchers and elk. Increased recreational use, highway expansion, OHV route proliferation, locatable mineral exploration and development, and other human disturbances would have a moderate negative impact on overall tule elk habitat conditions. A significant adverse impact would result from disturbance of calving areas during critical use periods. Seasonal protection of these areas would reduce impacts on 100% of BLM administered calving habitat and 45% of the region's total.

## **Conclusion:**

The cumulative effect would be a slight negative impact on overall tule elk habitat conditions. A slight increase in forage allocated to elk and seasonal protection of calving areas on BLM lands would partially mitigate habitat losses elsewhere in the region. Over the long term, regionwide tule elk numbers would be expected to decline slightly from current levels.

## **Alternative 2: Custodial Management**

Actions influencing vegetation conditions and disturbance of calving areas would continue to be the primary factors impacting tule elk habitat in the region. Continued export of surface and subsurface water resources from the Owens Valley by the LADWP is expected to lower water tables and result in a subsequent loss of forage quality and quantity. Combined with existing livestock use, a slight to moderate negative impact to tule elk forage resources would occur. The disposal of BLM lands in the Owens Valley for community expansion or agricultural development would result in the direct loss of habitat or increased conflicts between ranchers and elk. Increased recreational use, highway expansion, OHV route proliferation, locatable mineral exploration and development, and other human disturbances would have a moderate negative impact on overall tule elk habitat conditions. A significant adverse impact would result from disturbance of calving areas during critical use periods.

## **Conclusion:**

The cumulative effect would be a moderate negative impact on overall tule elk habitat conditions. A combination of direct loss of habitat quality and quantity, and increased human disturbance in calving areas would reduce the ability of the region to support the existing tule elk population. Over the long term, regionwide tule elk numbers would be expected to decline significantly from current levels.

## **Alternative 3: Natural Resource Enhancement**

Actions influencing vegetation conditions and disturbance of calving areas would continue to be the primary factors impacting tule elk habitat in the region. Continued export of surface and subsurface water resources from the Owens Valley by the LADWP is expected to lower water tables and result in a subsequent loss of forage quality and quantity. Combined with existing livestock use, a slight-to-moderate negative impact to tule elk forage resources would occur. The increase of forage allocated to elk on one

BLM allotment and the improved vegetation conditions in DPC areas would have a slight to moderate positive impact on overall forage conditions. Off-site water harvesting activities, particularly of groundwater resources, could significantly reduce the ability to meet DPC goals and improve vegetation conditions on BLM lands in the Owens Valley. Habitat acquisitions would consolidate BLM lands in the Owens Valley and provide improved opportunities for the management of tule elk habitat. Increased recreational use, highway expansion, OHV route proliferation, locatable mineral exploration and development, and other human disturbances would have a moderate negative impact on overall tule elk habitat conditions. A significant adverse impact would result from disturbance of calving areas during critical use periods. Yearlong protection of these areas would preserve 100% of BLM administered calving habitat and 45% of the region's total.

## **Conclusion:**

The cumulative effect would be a slight negative impact on overall tule elk habitat conditions. The combination of an increase in forage allocated to elk, improved vegetation conditions, and yearlong protection of calving areas on BLM lands would mitigate habitat losses elsewhere in the region. Over the long term, regionwide tule elk numbers would be expected to remain near current levels or decline slightly.

## **Alternative 4: Preferred Alternative**

Same as Alternative 3.

## **Impact on Pronghorn**

### **Alternative 1: No Action/Continuation of Present Management**

Regionwide actions affecting pronghorn habitat include livestock grazing, mineral exploration and development, residential development, and increasing levels of recreational use. The combination of competition with livestock for early season (May-July) forage, poor water distribution, and a general lack of quality habitat would continue to depress the productivity of the region's 3 pronghorn herds. Increases in forage allocated to pronghorn on 6 BLM allotments would result in a slight reduction of competition impacts. Mineral exploration and development is expected to result in the direct loss of less than 1 percent of the region's pronghorn habitat; however, behavioral avoidance of developed areas would effectively eliminate pronghorn use from 2-4 percent of the



region's habitat. Impacts from locatable mineral development would be concentrated on BLM lands in the Bodie Hills and on the White Mountain bajada. Subdivision of private lands for residential development is expected to fragment pronghorn habitat on the White Mountain bajada and have a slight negative impact on pronghorn in the Benton and Hammil Valley areas. The disposal of BLM lands for agricultural development and community expansion in these areas would contribute to development impacts resulting in a moderate negative impact on the small Hammil Valley population (approximately 25 animals). Predicted increases in recreational use would increase human disturbance in pronghorn areas and aggravate the loss of habitat to development.

### **Conclusion:**

The cumulative effect would be a slight negative impact on overall pronghorn habitat conditions. Slight increases in forage allocated to pronghorn would mitigate minor habitat disturbances; however, additional fragmentation and direct loss of habitat to development would further depress regionwide pronghorn populations. Over the long term, regionwide pronghorn numbers would be expected to remain near current levels or decline slightly.

### **Alternative 2: Custodial Management**

Regionwide actions affecting pronghorn habitat include livestock grazing, mineral exploration and development, residential development, and increasing levels of recreational use. The combination of competition with livestock for early season (May-July) forage, poor water distribution, and a general lack of quality habitat would continue to depress the productivity of the region's 3 pronghorn herds. Mineral exploration and development is expected to result in the direct loss of less than 1 percent of the region's pronghorn habitat; however, behavioral avoidance of developed areas would effectively eliminate pronghorn use from 2-4 percent of the region's habitat. Impacts from locatable mineral development would be concentrated on BLM lands in the Bodie Hills and on the White Mountain bajada. Subdivision of private lands for residential development is expected to fragment pronghorn habitat on the White Mountain bajada and have a slight negative impact on pronghorn in the Benton and Hammil Valley areas. The disposal of BLM lands for agricultural development and community expansion in these areas would contribute to development impacts resulting in a moderate negative impact on the small Hammil Valley population (approximately 25 animals). Predicted increases in recreational use would increase human disturbance in pronghorn areas and aggravate the loss of habitat to development.

### **Conclusion:**

The cumulative effect would be a moderate negative impact on overall pronghorn habitat conditions. Additional fragmentation and direct loss of habitat to development would further depress regionwide pronghorn populations. Over the long term, regionwide pronghorn numbers would be expected to decline significantly.

### **Alternative 3: Natural Resource Enhancement**

Regionwide actions affecting pronghorn habitat include livestock grazing, mineral exploration and development, residential development, and increasing levels of recreational use. The combination of an increase in forage allocated to pronghorn on 8 BLM allotments, improved water distribution, and improved vegetation conditions in DPC areas would have a significant positive impact on 45 percent of the region's pronghorn habitat. Mineral exploration and development is expected to result in the direct loss of less than 1 percent of the region's pronghorn habitat; however, behavioral avoidance of developed areas would effectively eliminate pronghorn use from 2-4 percent of the region's habitat. Impacts from locatable mineral development would be concentrated on BLM lands in the Bodie Hills and on the White Mountain bajada. Subdivision of private lands for residential development is expected to fragment pronghorn habitat on the White Mountain bajada and have a slight negative impact on pronghorn in the Benton and Hammil Valley areas. Habitat acquisitions would mitigate development impacts on private lands by consolidating BLM lands and providing improved opportunities for management of crucial pronghorn habitat in the Benton, Hammil Valley, and Adobe Valley areas. Predicted increases in recreational use would increase human disturbance in pronghorn areas and aggravate the loss of habitat to development.

### **Conclusion:**

The cumulative effect would be a slight to moderate positive impact on overall pronghorn habitat conditions. The combination of an increase in forage allocated to pronghorn, improved water distribution, and improved vegetation conditions would outweigh minor habitat loss or disturbance. Over the long term, regionwide pronghorn numbers would be expected to increase significantly.



## Alternative 4: Preferred Alternative

Regionwide actions affecting pronghorn habitat include livestock grazing, mineral exploration and development, residential development, and increasing levels of recreational use. The combination of an increase in forage allocated to pronghorn on 8 BLM allotments, improved water distribution, and improved vegetation conditions in DPC areas would have a significant positive impact on 45 percent of the region's pronghorn habitat. Mineral exploration and development is expected to result in the direct loss of less than 1 percent of the region's pronghorn habitat; however, behavioral avoidance of developed areas would effectively eliminate pronghorn use from 2-4 percent of the region's habitat. Impacts from locatable mineral development would be concentrated on BLM lands in the Bodie Hills and on the White Mountain bajada. Subdivision of private lands for residential development is expected to fragment pronghorn habitat on the White Mountain bajada and have a slight negative impact on pronghorn in the Benton and Hammil Valley areas. The disposal of BLM lands in these areas for agricultural development or community expansion would contribute to development impacts; however, habitat acquisitions would partially mitigate these impacts by consolidating BLM lands and providing improved opportunities for management of crucial pronghorn habitat in the Benton, Hammil Valley, and Adobe Valley areas. Predicted increases in recreational use would increase human disturbance in pronghorn areas and aggravate the loss of habitat to development.

### Conclusion:

The cumulative effect would be a slight to moderate positive impact on overall pronghorn habitat conditions. The combination of an increase in forage allocated to pronghorn, improved water distribution, and improved vegetation conditions would outweigh minor habitat loss or disturbance. Over the long term, regionwide pronghorn numbers would be expected to increase significantly.

## Impact on Riparian and Fisheries Habitat

### Alternative 1: No Action/Continuation of Present Management

Regionwide riparian and fisheries habitat would be affected primarily by livestock use, recreational use, hydroelectric power generation, locatable and geothermal mineral development, habitat improvement

projects, and water diversion for irrigation and domestic use. Riparian resources would continue to be heavily impacted by livestock grazing, and water diversion for power generation and export. Reduced vegetative cover, vigor and diversity, and loss of instream habitat quality would continue to be major impacts to the region's riparian resources. Predicted increases in recreation levels would increase demand for riparian and fisheries resources and compound existing impacts. Productivity of the region's fisheries would remain below potential, and would not meet demand. Habitat improvement projects would restore riparian and fisheries habitat conditions in localized areas and affect less than 30% of the region's resource. Overall, Bureau actions would have no significant impact on existing regionwide riparian and fisheries habitat conditions. Localized improvements of some habitats would be offset by losses in others.

### Conclusion:

The cumulative effect would be a slight negative impact on existing riparian and fisheries habitat conditions in the region. Little change in habitat conditions on BLM lands would occur with most major changes restricted to adjacent LADWP or USFS lands. Over the long term, regionwide fisheries production would be expected to decline.

## Alternative 2: Custodial Management

Regionwide riparian and fisheries habitat would be affected primarily by livestock use, recreational use, hydroelectric power generation, locatable and geothermal mineral development, habitat improvement projects, and water diversion for irrigation and domestic use. Riparian resources would continue to be heavily impacted by livestock grazing, and water diversion for power generation and export. Reduced vegetative cover, vigor and diversity, and loss of instream habitat quality would continue to be major impacts to the region's riparian and fisheries resources. Predicted increases in recreation levels would increase demand for riparian and fisheries resources and compound existing impacts. Productivity of the region's fisheries would remain below potential and unable to meet demand. Habitat improvement projects would restore habitat conditions in localized areas and affect less than 20% of the region's resource. Overall, Bureau actions would make a significant contribution to a general downward trend of regionwide riparian and fisheries habitat conditions. No improvement of habitat conditions would occur on BLM lands and significant losses to development (primarily mineral development and water diversion) would occur. Any off-site improvements would be offset by degradation of habitats on BLM lands.

## Conclusion:

The cumulative effect would be a moderate negative impact on riparian and fisheries habitat conditions. Additional loss of habitat quality on BLM lands would contribute to a general downward trend of habitat conditions in the region.

## Alternative 3: Natural Resource Enhancement

Regionwide riparian and fisheries habitat would be affected primarily by livestock use, recreational use, hydroelectric power generation, locatable and geothermal mineral development, habitat improvement projects, and water diversion for irrigation and domestic use. Riparian resources would continue to be heavily impacted by livestock grazing, and water diversion for power generation and export. Reduced vegetative cover, vigor and diversity, and loss of instream habitat quality would continue to be major impacts to the region's riparian and fisheries resources. Predicted increases in recreation levels would increase demand for riparian and fisheries resources and compound existing impacts. Productivity of the region's fisheries would remain below potential and unable to meet demand. Habitat improvement projects would restore habitat conditions in localized areas and affect 30-40% of the region's resource. Overall, Bureau actions would have a significant effect on reducing regionwide impacts to riparian and fisheries habitats. Improvement in riparian and fisheries habitat quality on BLM lands would mitigate a significant portion of off-site impacts. Bureau restrictions on stream and spring diversions would slow the loss of habitat to hydroelectric power generation and other activities that require water diversions. This restriction would also ensure the protection of free-flowing characteristics on at least a portion of the region's streams. Improvements in habitat conditions would also increase fisheries productivity, and help meet the growing demand for riparian and fisheries resources.

### Conclusion:

The cumulative effect would be a slight positive impact on existing riparian and fisheries habitat conditions in the region. Significant improvement of habitat conditions on BLM lands would complement improvements on adjacent USFS lands. Over the long term, regionwide fisheries production would be expected to improve slightly.

## Alternative 4: Preferred Alternative

Regionwide riparian and fisheries habitat would be affected primarily by livestock use, recreational use,

hydroelectric power generation, locatable and geothermal mineral development, habitat improvement projects, and water diversion for irrigation and domestic use. Riparian resources would continue to be impacted by livestock grazing, and water diversion for power generation and export. Reduced vegetative cover, vigor and diversity, and loss of instream habitat quality would continue to be major impacts to the region's riparian and fisheries resources. Predicted increases in recreation levels would increase demand for riparian and fisheries resources and compound existing impacts. Productivity of the region's fisheries would remain below potential and unable to meet demands. Habitat improvement projects would restore habitat conditions in localized areas and affect 30-40% of the region's resource. Overall, Bureau actions would have a significant effect on reducing regionwide impacts. Improvement in habitat quality on BLM lands would mitigate a portion of off-site impacts to riparian and fisheries resources. Bureau restrictions on stream and spring diversions would slow the loss of habitat to hydroelectric power generation and other activities that require water diversions. Improvements in habitat conditions would also increase fisheries productivity, and help meet the growing demand for riparian and fisheries resources.

### Conclusion:

The cumulative effect would be a slight positive impact on existing riparian and fisheries habitat conditions in the region. Significant improvement of habitat conditions on BLM lands would complement improvements on adjacent USFS lands. Over the long term, regionwide fisheries production would be expected to improve slightly.

## Impact on Threatened and Endangered Species

### Alternative 1: No Action/Continuation of Present Management

Regionwide actions affecting threatened, endangered, and candidate (sensitive) species habitat include locatable and geothermal mineral development, livestock grazing, ski area development, road maintenance, off-road vehicle use, other recreation activities, and residential, commercial and agricultural expansion. The majority of these threats to sensitive species are occurring in the eastern Sierra region between the communities of Bridgeport and Lone Pine. Sensitive plant and wildlife species confined to small, geographically isolated habitats (e.g. Great Basin springsnails) are highly susceptible to habitat and population loss.

Other animal species (e.g. bald eagle, peregrine falcon) are less susceptible to regionwide impacts due to their ability to move to other locations. The majority of the 60 + sensitive species in the region would be highly susceptible to habitat degradation or loss over the next 20 years. The regional trend toward expansion of the recreation based economy, exploitation of mineral resources, water diversion and export, and community/agricultural expansion will increase the rate of sensitive species habitat and population losses, particularly for animal species associated with aquatic environments and for upland plants.

Bureau actions would have little effect on reversing the general downward trend for the majority of sensitive species dependent on small, geographically isolated habitats. Owens tui chub, Owens pupfish, and Lahontan cutthroat trout are exceptions to this trend. Bureau actions would increase habitat for these species by over 100 percent. A twofold increase in individual populations and overall population levels would significantly improve the viability of these species. Bureau actions related to livestock grazing, mineral exploration and development, and some recreation activities would continue to have substantial adverse impacts on the remainder of sensitive wildlife and plant species found on BLM lands.

### Conclusion:

The cumulative affect of all regionwide activities would be moderate to high negative impacts on the majority of sensitive wildlife and plant species in the eastern Sierra. With the exception of significant improvement for Owens tui chub, Owens pupfish, and Lahontan cutthroat trout, numerous small geographically isolated habitats would continue to be damaged or lost to consumptive uses and development. Over the long term, additional species would be proposed for federal listing (e.g. the Owens speckled dace).

### Alternative 2: Custodial Management

Regionwide actions affecting threatened, endangered, and candidate (sensitive) species habitat include locatable and geothermal mineral development, livestock grazing, ski area development, road maintenance, off-road vehicle use, other recreation activities, and residential, commercial and agricultural expansion. The majority of these threats to sensitive species are occurring in the eastern Sierra region between the communities of Bridgeport and Lone Pine. Sensitive plant and wildlife species confined to small, geographically isolated habitats (e.g. Great Basin springsnails) are highly susceptible to habitat and population loss. Other animal species (e.g. bald eagle, peregrine

falcon) are less susceptible to regionwide impacts due to their ability to move to other locations. The majority of the 60 + sensitive species in the region would be highly susceptible to habitat degradation or loss over the next 20 years. The regional trend toward expansion of the recreation based economy, exploitation of mineral resources, water diversion and export, and community/agricultural expansion will increase the rate of sensitive species habitat and population losses, particularly for those animal species associated with aquatic environments and for upland species. Limited regional improvements would be accomplished in habitat restoration and population recovery for the Lahontan cutthroat trout.

Bureau actions would have little effect on reversing the general downward trend for the majority of sensitive species dependent on small, geographically isolated habitats. Owens tui chub and Owens pupfish habitats would be exceptions to this trend. Bureau actions related to livestock grazing, mineral exploration and development, and some recreation activities would continue to have substantial adverse impacts on the remainder of sensitive wildlife and plant species on Bureau lands.

### Conclusion:

The cumulative affect of all regionwide activities would be moderate to high negative impacts on the majority of sensitive wildlife and plant species in the eastern Sierra. With the exception of maintaining Owens pupfish and Owens tui chub habitats, numerous small, geographically isolated habitats would be lost or damaged by consumptive uses and development. The Owens pupfish and Owens tui chub would remain on the federal endangered species list. Slight improvements in overall Lahontan cutthroat trout habitat would increase the viability of this species. However, delisting would probably not occur over the next 10-15 years. Over the long term, additional species would be proposed for federal listing (e.g. the Owens speckled dace).

### Alternative 3: Natural Resource Enhancement

Regionwide actions affecting threatened, endangered, and candidate (sensitive) species habitat include locatable and geothermal mineral development, livestock grazing, ski area development, road maintenance, off-road vehicle use, other recreation activities, and residential, commercial and agricultural expansion. The majority of the threats to the sensitive species are occurring in the eastern Sierra region between the communities of Bridgeport and Lone Pine. Sensitive



plant species and wildlife species confined to small, geographically isolated habitats (e.g. Great Basin springsnails) are highly susceptible to habitat and population loss. Other animal species (e.g. bald eagle, peregrine falcon) are less susceptible to regionwide impacts due to their ability to move to other locations. The majority of the 60 + sensitive species in the region would be highly susceptible to habitat degradation or loss over the next 20 years. The regional trend toward expansion of the recreation based economy, exploitation of mineral resources, water diversion and export, and community/agricultural expansion will increase the rate of sensitive species habitat and population losses, particularly for animal species associated with aquatic environments and for upland plants.

Bureau acquisitions, protective management of sensitive species habitats (24,700 acres) and special management on 240,000 additional acres would significantly improve the habitat and population conditions for most of the known sensitive species on BLM land. Several sensitive (listed) animal species would be reintroduced, and significantly improve populations. Locatable mineral development would substantially impact 14 populations of 4 sensitive animal species.

### **Conclusion:**

Overall, Bureau actions would have a moderate positive impact on sensitive species habitat populations. The Owens pupfish, Owens tui chub and Lahontan cutthroat trout would be either downlisted or removed from formal listing under the Federal Endangered Species Act. The cumulative effect of all regionwide activities would continue to have slight to moderate impacts on the majority of sensitive wildlife and plant species in the eastern Sierra.

### **Alternative 4: Preferred Alternative**

Regionwide actions affecting threatened, endangered, and candidate (sensitive) species habitat include locatable and geothermal mineral development, livestock grazing, ski area development, road maintenance, off-road vehicle use, other recreation activities, and residential, commercial and agricultural expansion. The majority of these threats to sensitive species are occurring in the eastern Sierra region between the communities of Bridgeport and Lone Pine. Sensitive plant and wildlife species confined to small, geographically isolated habitats (e.g. Great Basin springsnails) are highly susceptible to habitat and population loss. Other animal species (e.g. bald eagle, peregrine falcon) are less susceptible to regionwide impacts due to their ability to move to other locations. The majority of the 60 + sensitive species in the region would be

highly susceptible to habitat degradation or loss over the next 20 years. The regional trend toward expansion of the recreation based economy, exploitation of mineral resources, water diversion and export, and community/agricultural expansion will increase the rate of sensitive species habitat and population loss, particularly for animal species associated with aquatic environments and for upland plants.

Bureau land acquisitions, protective management of sensitive species habitats (11,000 acres) and special management on 71,000 additional acres would improve the habitat and population conditions for most of the known sensitive species. Several sensitive (listed) animal species would be reintroduced, and significantly improve populations. Locatable mineral development would still substantially impact 14 populations of 4 sensitive animal species.

### **Conclusion:**

Overall, Bureau actions would have a slight positive impact on sensitive species habitats and populations. The Owens pupfish, Owens tui chub and Lahontan cutthroat trout would be either downlisted or removed from formal listing under the Federal Endangered Species Act. The cumulative effect of all regionwide activities would continue to have slight to moderate impacts on the majority of sensitive wildlife and plant species in the eastern Sierra.

## **Impact on Mining: Locatable and Salable Minerals**

### **Alternative 1: No Action/Continuation of Present Management**

It is expected that mineral exploration and development will continue at present levels over the next 10-20 years. Certain locatable mineral deposits and 17% of the salable deposits will be withdrawn to protect wildlife, cultural and visual resources. Some restrictions will apply to future exploration and development with the following results:

Development of 25% of the mineral deposits will be constrained by seasonal protection and 2% by year-long protection.

Development of 5% of the placer gold deposits may be restricted on 10 creeks due to wild and scenic river interim management policy.

Development of 43% of the locatable and salable mineral deposits would be restricted due to Class I and II VRM requirements.



## **Conclusion:**

Little net change is expected from present levels of exploration and development. Development of 5 locatable and 13 salable deposits will not occur due to increased mining costs required to protect other resources. This represents a potential loss of \$5 million in locatables and \$13,000 in salables to the local economy over 10-20 years. Although this opportunity would be foregone, there would be no significant adverse effect to the local or regional economy.

Mining will be permitted in the Bodie Bowl under strict environmental guidelines to protect scenic and cultural values. This will represent an increase in \$2 billion to Mono County's tax base and create over 500 jobs.

## **Alternative 2: Custodial Management**

Mineral exploration and development would be slightly increased.

Approximately 4% of the locatable and 5% of the salable mineral deposits will be withdrawn to protect wildlife, cultural and visual resources.

There would be no seasonal protection affecting mining. Development of 2% of the mineral deposits will be constrained by yearlong protection.

Development of 5% of the placer gold deposits may be restricted on 10 creeks due to wild and scenic river interim management policy.

Development of 7% of the locatable and salable mineral deposits would be restricted due to Class I and II VRM requirements.

## **Conclusion:**

Mineral exploration and development would be slightly increased over Alternative 1.

Development of 4 locatable and 8 salable mineral deposits will not occur due to increased mining costs required to protect other resources. This represents a potential loss of \$4 million in locatables and \$8,000 in salables to the local economy over 10-20 years. Although this opportunity would be foregone, there would be no significant adverse effect to the local or regional economy.

Mining will be permitted in the Bodie Bowl under strict environmental guidelines to protect scenic and cultural values. This will represent an increase in \$2 billion to Mono County's tax base, and create over 500 jobs.

## **Alternative 3: Natural Resource Enhancement**

There would be a slight to moderate reduction in future exploration and development opportunities.

Approximately 23% of the locatable and 58% of the salable mineral deposits will be withdrawn to protect wildlife, cultural and visual resources.

Development of 34% of the mineral deposits will be constrained by seasonal restrictions and 10% by yearlong protection.

Development of 5% of the placer gold deposits may be restricted on 10 creeks due to wild and scenic river interim management policy.

Development of 59% of the locatable and salable mineral deposits would be restricted due to Class I and II VRM requirements.

## **Conclusion:**

Mineral exploration and development would be slightly to moderately decreased over Alternative 1.

Development of 10 locatable and 27 salable mineral deposits will not occur due to increased mining costs required to protect other resources. This represents a potential loss of \$10 million from locatables and \$27,000 in salables to the local economy over 10-20 years.

Mining will not occur in the Bodie Bowl except on claims with valid existing rights and on private land. Only 50% of the Galactic-Bodie deposit could be developed. This will reduce potential additions to Mono County's tax base by \$1 billion. It will create over 250 jobs instead of the 500 jobs possible under Alternatives I and II.

## **Alternative 4: Preferred Alternative**

There would be a slight decrease in opportunities for exploration and development:

Approximately 18% of the locatable mineral deposits and 56% of the salable deposits will be withdrawn to protect wildlife, cultural, and visual resources.

Development of 34% of the mineral deposits will be constrained by seasonal protection and 11% by yearlong protection.

Development of 5% of the placer gold deposits may be restricted on 10 creeks due to wild and scenic river interim management policy.

Development of 59% of the locatable and salable mineral deposits would be restricted due to Class I and II VRM requirements.

### **Conclusion:**

Mineral exploration and development would be slightly decreased over Alternative 1.

Development of 9 locatable and 26 salable mineral deposits will not occur due to increased mining costs required to protect other resources. This represents a potential loss of \$9 million in locatables and \$26,000 in salables to the local tax base over the next 10-20 years.

Mining will be limited in Bodie Bowl in order to preserve the "Ghost Town" feel of Bodie. These restrictions will make 50% of the deposit uneconomic to develop. This will represent an increase of \$1 billion to Mono County's tax base and create over 250 jobs compared to the \$2 billion and 500 jobs generated under Alternatives 1 and 2.

## **Impact on Vegetation**

### **Alternative 1: No Action/Continuation of Present Management**

Regionwide actions affecting vegetation include locatable and geothermal mineral development, road construction, water diversion and export, livestock grazing, ski area development, hydroelectric project construction, timber harvest, and residential, commercial and agricultural expansion.

Overall, Bureau actions would have a slight negative impact on the regionwide trend toward recovery of riparian, aspen, and meadow communities on federal lands. The general downward trend in ecological conditions of these communities on Bureau lands would slightly offset recovery efforts elsewhere in the region. Bureau actions would have little impact on regionwide sagebrush-bitterbrush and pinyon-juniper communities. Few if any changes in the current areal extent and overall ecological conditions of sagebrush-bitterbrush and pinyon-juniper would occur. The limited extent of old-growth and harvestable timber communities on Bureau lands significantly reduces the regionwide effects Bureau actions could have on these communities. Under this alternative no harvesting of

mature conifers occurs. The dune community is geographically restricted to the southern Owens Valley and will continue to remain intact.

### **Conclusion:**

Cumulatively, the region's biologically diverse riparian, aspen, and meadow communities would experience little or no change in overall areal extent, condition, and productivity. A slight to moderate decline in quantity and quality of old growth and mature forest types would occur on USFS lands. Human actions and natural causes would continue to have little or no negative impact on overall areal extent and potential productivity of dune, bristlecone, sagebrush-bitterbrush, and pinyon-juniper communities.

### **Alternative 2: Custodial Management**

Regionwide actions affecting vegetation include locatable and geothermal mineral development, road construction, water diversion and export, livestock grazing, ski area development, hydroelectric project construction, timber harvest, and residential, commercial and agricultural expansion.

Overall, Bureau actions would have a slight negative impact on the regionwide recovery of riparian, aspen, and meadow communities on federal land. The general downward trend in ecological condition of these communities on Bureau lands would offset recovery efforts elsewhere in the region. Bureau actions would have little impact on regionwide sagebrush-bitterbrush and pinyon-juniper communities. Few if any changes in the current areal extent and overall ecological conditions of sagebrush-bitterbrush and pinyon-juniper would occur. The small amount of old-growth and harvestable timber communities on Bureau lands limits the regionwide effects Bureau actions could have on these communities. However, the harvest of these communities under this alternative would contribute to the regionwide loss of biodiversity in old growth and mature forest types. The dune community is geographically restricted to the southern Owens Valley and will continue to remain intact.

### **Conclusion:**

Cumulatively, the region's biologically diverse riparian, aspen, and meadow communities would experience a slight to moderate decline in overall extent, condition, and productivity. A moderate decline in quantity and quality of old growth and mature forest types would occur regionally, with a complete loss of these vegetation communities on Bureau lands. Human actions and natural causes would continue to have little or no

negative impact on overall areal extent and potential productivity of dune, brittlecone, sagebrush-bitterbrush, and pinyon-juniper communities.

### **Alternative 3: Natural Resource Enhancement**

Regionwide actions affecting vegetation include locatable and geothermal mineral development, road construction, water diversion and export, livestock grazing, ski area development, hydroelectric project construction, timber harvest, and residential, commercial and agricultural expansion.

Bureau locatable mineral development will eliminate approximately 1,500 acres of vegetation with less than 1% occurring in meadow, riparian, aspen, and old growth vegetation types. Acquisitions would significantly increase (by 115%) the acreage of meadow, riparian and aspen placed under DPC management, bringing the total to 11,000 acres. Regional improvements would add to the trend of increasing the quality and productivity of these vegetation types. DPC management is expected to maintain or improve ecological conditions on 112,000 acres of dune, pinyon-juniper, Jeffrey pine, old growth, sagebrush-bitterbrush, and brittlecone vegetation communities. The other 633,000 acres of vegetation in the resource area would remain in their present condition for the long term.

#### **Conclusion:**

Cumulatively, the region's biologically diverse and productive meadow, riparian, and aspen vegetation types would experience a slight to moderate improvement in quality and available plant biomass. A slight to moderate decline in quantity and quality of old growth and mature forest types would occur on National Forest lands. Human actions and natural causes would continue to have little or no impact on overall areal extent and potential productivity of dune, brittlecone, sagebrush-bitterbrush, and pinyon-juniper communities.

### **Alternative 4: Preferred Alternative**

Regionwide actions affecting vegetation include locatable and geothermal mineral development, road construction, water diversion and export, livestock grazing, ski area development, hydroelectric project construction, timber harvest, and residential, commercial and agricultural expansion.

Bureau locatable mineral development will eliminate approximately 1,500 acres of vegetation with less than

1% occurring in meadow, riparian, aspen, and old growth vegetation types. Acquisitions would increase (by 55%) the acreage of meadow, riparian, and aspen placed under DPC management bringing the total to 7,900 acres. Regional improvements would add to the trend of increasing the quality and productivity of these vegetation types. DPC management is expected to maintain 103,000 acres dune, pinyon-juniper, Jeffrey pine, old growth, sagebrush-bitterbrush, and brittlecone vegetation communities. The other 642,000 acres of vegetation in the resource area would remain in their present condition for the long term.

#### **Conclusion:**

Cumulatively, the region's biologically diverse and productive meadow, riparian, and aspen vegetation types would undergo a slight improvement in quality and available plant biomass. A slight to moderate decline in quantity and quality of old growth and mature forest types would occur on National Forest lands. Human actions and natural causes would continue to have little or no impact on overall areal extent and potential productivity of dune, brittlecone, sagebrush-bitterbrush, and pinyon-juniper communities.

## **Impact on Livestock Grazing**

### **Alternative 1: No Action/Continuation of Present Management**

Federal grazing permits remain a cornerstone in nearly all western livestock operations, and adjustment of one agency's permit nearly always causes a change to another. Regionally, livestock operations occur on USFS, BLM, CDF&G or LADWP controlled lands and private lands. With increased public concern over environmental issues, it is expected that the agencies will intensify grazing management in the coming years. Agency land acquisitions for vital wildlife habitat (i.e. Conway Summit) and private land conversions for development (i.e. Conway Ranch) will remove high production grazing land (meadows) from the forage base with significant impacts to grazing operations.

Increased emphasis to monitor vegetation and mitigate or eliminate (the BLM and USFS) livestock grazing impacts to other resources would significantly affect rangeland permittees. The USFS and Carson City District BLM are prepared to make additional adjustments to current livestock grazing management, if substantiated by monitoring results. More than half of all Bishop Resource Area permittees hold permits with those agencies. Any substantial change would have a domino effect on a permittee's adjacent agency allotment.



The Mono Basin National Forest Scenic Area Comprehensive Management Plan has a goal to phase out livestock grazing. This will affect the USFS portion (some 20,650 acres) of 5 BLM allotments (6054, 6055, 6060, 6061 and 6072). This constitutes 19% of the total acreage and 16% of the total AUMs on these allotments. This affects 4 sheep permittees and 1 cattle permittee. These allotments are managed cooperatively by the two agencies under a Memorandum of Understanding. When grazing is phased out on the USFS portion, the additional forage use cannot be made up on the BLM portions of the allotments. Each permittee would be moderately impacted.

No other impacts, from either the Inyo or Toiyabe National Forests' Land Use Plans or the BLM's Walker RMP (Carson City, NV District) will affect livestock grazing under this alternative.

CDF&G livestock management policies for Slinkard Valley and River Springs have negatively impacted 2 BLM permittees. These BLM permittees lost their CDF&G leases to higher bidders in a competitive bidding process.

The Conway Ranch development had eliminated a high production meadow from sheep grazing, but has recently re-established grazing for the short-term. It is expected that at full development, sheep grazing will be eliminated with a negative impact to the permittee.

Bureau impacts are the same as identified in the Benton-Owens Valley and Bodie-Coleville Grazing EIS Preferred Alternative, except for the following:

Full suppression of wildfire areawide, will protect the existing forage base for livestock grazing. This will stabilize the permittee's livestock operation, protect private lands, and protect range improvements.

Bureau land disposals in allotments 6038 (7,222 acres) and 6040 (1,640 acres) will have moderate impacts to both permittees. An estimated 18% and 16% respectively of their present BLM allotment acreage will be eliminated.

### **Conclusion:**

An increase in management intensity regionwide is expected to significantly raise the costs of livestock grazing. Labor intensive grazing systems, construction of range improvement projects, maintenance of those projects, and loss of flexibility will contribute to these costs. It is expected that large livestock operations will be able to absorb the additional costs; however, substantial changes in season of use and/or reductions in carrying capacity on BLM or USFS land will nega-

tively affect small to medium size livestock operation. This would result in 3 operations going out of business.

## **Alternative 2: Custodial Management**

Same as Alternative 1.

## **Alternative 3: Natural Resource Enhancement**

Approximately 19 livestock operators would be adversely affected by Bureau actions. Bureau actions in the Bodie Hills will force 4 sheep operators out of business, and four cattle operators to convert to sheep grazing or go out of business. In the Bodie Hills, a major consolidation of allotments would take place whereby the largest livestock operators would absorb those allotments where decisions made grazing economically infeasible for small to medium size operators. The result would be an overall reduction in carrying capacity (less AUMs for the same area) and a conversion to sheep grazing throughout the Bodie Hills. In Long Valley, land acquisition and DPC goals will drastically reduce grazing on 2 allotments. Current operations will not be economically feasible, and will be absorbed by other operations.

Those operators able to absorb the costs associated with this alternative also face additional costs associated with projected increases in management intensity on other agencies' lands. These operators must contend with potential season of use changes and/or capacity reductions. The combination of these factors will force some of these operators out of business.

Economically, the Bridgeport area will be slightly to moderately affected due to the loss of sales of goods and services. Mono County will have a moderate reduction in livestock sales. Inyo County livestock sales will be slightly reduced.

### **Conclusion:**

The impacts on livestock grazing both regionally and on Bureau land would be highly negative, with direct impacts to 19 permittees. The greatest impacts would be in the Bodie Hills and Long Valley areas.

## **Alternative 4: Preferred Alternative**

Regionally, impacts would be the same as in Alternative III but with an additional impact. With an emphasis placed on development of dispersed recreation opportunities, more of the recreating public will be exposed to livestock grazing. It is expected that recreational



users will exert more pressure for elimination of livestock grazing particularly where grazing conflicts with recreational values. This is expected to raise operational costs for 19 permittees due to grazing losses at site specific areas, and additional costs for project construction and maintenance.

### **Conclusion:**

The impacts on livestock grazing both regionally and on Bureau land would be highly negative, with direct impacts to 19 permittees. The greatest impacts would be in the Bodie Hills and Long Valley areas.

## **Impact on Cultural Resources**

### **Alternative 1: No Action/Continuation of Present Management**

There is little attention given to active management of cultural resources by many of the agencies in the region. Actions are primarily to mitigate projects, although research by academia is encouraged, and BLM and the USFS are working with local Indian communities.

Interpretive and educational efforts significantly benefit our management of Bureau lands and protection of cultural resource properties by educating the public to the value of the resource. With the present inattention to and random focus on educational and interpretive measures by BLM and other public agencies in the eastern Sierra, the public would continue largely uneducated and uninformed about cultural values on the Bureau lands. There would continue to be significant negative impacts on archeological and historical properties through both intentional and unintentional vandalism, vehicular travel through sites, and collection of artifacts. Specific properties which would benefit through interpretation efforts recommended under this alternative are the Pat Keyes mining trail, Golden Gate Mine, and Dynamo Pond.

Acquisition of private land at Swansea would allow protection and interpretation of the historic site. This would have a moderate positive effect on those cultural resources.

Research projects which develop new data through inventory and excavation are an important part of BLM's Cultural Resource program in the resource area. The area has an ongoing cooperative agreement program which has resulted in valuable excavation

work at threatened/vandalized sites in the Volcanic Tableland of the Benton MA. Similar projects are welcomed and sought, with several efforts dealing with the area's rock art completed or underway. Inventory by BLM personnel has been limited due to lack of manpower and funding, and is done primarily in support of other programs. Under this alternative, some BLM inventory is recommended in the Crater Mountain area.

New projects which are authorized under existing policy and practices would have various effects on cultural resources. Following our standard operating procedures, effects on cultural properties are avoided or mitigated, and effects on traditional lifeways are considered before project approval.

Of special concern is the area around Bodie. The town of Bodie is a State Park, and is included within a National Historic Landmark.

Mining activities outside of and adjacent to Bodie would have minor negative impacts upon historic structures, and a severe negative impact upon the historic landscape and setting. Projects in this area will need to be designed with special care to avoid significant negative impacts. Most impacts would be avoided or mitigated within specific project proposals.

VRM II designation and prohibition of surface occupancy and intensive land use activities within the Bodie Bowl would help retain the characteristics of the historic mining setting, which is of value to the Park and the National Landmark.

Limitation of cross-country vehicular travel and designation of routes will have significant positive effects. The potential for direct impacts of vehicle traffic through sites will be reduced by eliminating cross-country travel and by closure of routes which cut through sites. Access to sites would be reduced, thus reducing vandalism and collection of artifacts.

Continuation of the mineral withdrawals at Dogtown and the Bishop Petroglyph Loop would have a significant beneficial effect by heading off potential problems of people filing claims and disturbing those resources with mineral exploration and development.

Current fire management practices of inter-agency response with a resource advisor provided by BLM when fires are on Bureau lands has resulted in limited use of dozers, and thus few negative impacts to cultural resource sites.

Local Indian communities have expressed several concerns with BLM management of the Bureau lands

in the eastern Sierra which affects their communities and their efforts to continue traditional lifeways. They are extremely concerned about vandalism of archeological and historical sites, particularly graves. They are concerned about BLM excavation of threatened sites for data recovery, and the issue of curation, testing, and reburial of human remains from these sites. They wish to retain access to Bureau lands for pinyon nut harvesting, and for use of sacred sites; and are interested in assisting BLM in managing some sites. Two of the groups wish to acquire additional lands for expansion of their reservations.

Vandalism of sites is a constant problem which the BLM recognizes. With only one ranger, the resource area depends to a large extent upon support from the public in reporting vandalism and other problems. Under current management, efforts are underway to increase our law enforcement presence, but it is unlikely in the near future. Because of this limitation, cultural properties will continue to be vandalized and destroyed.

The issue of archeological excavation of sites is one which divides the local Indian community. Many people are genuinely interested in the information to be gained by such work, while others are adamantly opposed to any disturbance, even when the site is being destroyed by vandalism. The same division of the community occurs when the topic is testing of human remains, with the more vocal group desiring no testing. The majority seem to desire that human remains be reburied with appropriate ceremonies. Decisions regarding excavation, testing, and reburial are currently made on a case-by-case basis in consultation with the local Indian community.

Access is currently allowed for pinyon nut harvesting. Commercial harvesting of pinyon nuts is prohibited so that the resource will be available for individual use.

There has been little discussion with the local Indian communities about sacred sites. Continued access to hot springs in the Long Valley area, and a desire to not have them damaged or overly developed has been mentioned as a concern. Development of recreational hot tubbing facilities at existing springs in the Long Valley area has both negative and positive effects upon traditional uses of these springs. Negative effects are change of important or sacred natural features, and increased visitation which can interfere with traditional Indian uses. Positive effects are increased ease of access and ease of use of the healing properties of the springs.

Unsupervised development of recreational hot tubbing facilities would have moderate adverse effects upon

cultural properties through increased visitation, and thus increased trampling and vandalism of sites.

Travertine Hot Springs is also considered a sacred healing site. Continuation of mineral material sales or other actions which change the physical characteristics of the site would have moderate negative effects upon its value as a sacred site.

## Conclusion:

The resource area currently has a good cultural resource management program in some areas, most notably in data retrieval and encouraging research through our cooperative agreement program. Educational and interpretive efforts have not been strong, and this alternative specifically omits some areas such as the Salt Tram from interpretation. Current management allows considerable protection to the town of Bodie, as well as ensuring avoidance or mitigation of effects to cultural properties from other proposed projects. Vehicle route designations and continuing current mineral withdrawals would significantly benefit cultural resources. Current fire suppression methods are protecting most cultural properties. Law enforcement patrols are of value in protecting cultural properties as well as enhancing traditional lifeway values for the local Indian communities; however, current levels of patrol are extremely low and are not sufficient. Local Indian communities' concerns about actions which affect their traditional lifeways are considered, but not always met.

Overall, there is a slow, but continued loss of cultural properties through vandalism and projects which can not be redesigned. Traditional lifeway values are considered in the decision-making process, and recent efforts are improving communication with local Indian communities in this area.

## Alternative 2: Custodial Management

The present inattention to and random focus on educational and interpretive measures by BLM and other public agencies in the eastern Sierra would be expected to continue, and in BLM's case worsen. Many opportunities for education, interpretation and site protection would be foregone.

The private land at Swansea would not be acquired. The Salt Tram would continue to deteriorate.

Research projects, such as the cooperative agreement program which has resulted in valuable excavation work at threatened sites in the Volcanic Tablelands, would not be pursued, resulting in loss of valuable data as sites continue to be vandalized or eroded naturally.

Inventory by BLM personnel would be done only in support of project work for other resource programs.

Protection of the cultural values in the Bodie area, limitation of cross-country motor vehicle travel, the effects of mineral withdrawals at Dogtown and the Bishop Petroglyph Loop, and levels and effects of BLM's law enforcement efforts would be the same as in Alternative 1.

Current fire management practices of inter-agency response would continue. BLM would probably not provide a resource advisor for fires on Bureau lands. That, in combination with the management decision for full suppression throughout most of the resource area, would result in increased use of dozers by fire personnel, and some significant negative impacts to cultural resource sites.

Decisions regarding excavation, testing, and reburial would continue to be made on a case-by-case basis in consultation with the local Indian community.

Access would continue to be allowed for pinyon nut harvesting; and commercial harvesting of pinyon nuts will be prohibited.

### **Conclusion:**

Under this alternative, the cultural resource management program would be much poorer than it is presently. Many educational and interpretive efforts would be foregone. This alternative specifically omits areas such as the Salt Tram, Golden Gate Mine and Dynamo Pond. Swansea would not be acquired. Loss of our data recovery program (including the cooperative agreement program) would result in severe negative impacts as sites continue to be lost through vandalism and natural destruction. Bodie would continue to be protected as it is now. Full fire suppression would have major adverse effects on the resource. Law enforcement patrols would continue at an insufficient level.

Overall, cultural properties in the resource area would continue to be lost at about the same rate as in Alternative 1, but there would be little or no data retrieval, so the net effect is much greater. Consideration of traditional lifeways would be much the same as under Alternative 1.

### **Alternative 3: Natural Resource Enhancement**

There would be a focus by BLM on specific educational and interpretive projects (interpretive plans, displays at the Interagency Visitor Center, etc.) in the resource

area which would help educate the public, resulting in a moderate positive impact on cultural resources in the eastern Sierra by reducing vandalism and collection of artifacts. Specific projects which would benefit cultural resources under this alternative are developing and implementing interpretive plans for the Mono Basin, Adobe Valley, Benton, and Owens Valley areas, interpretation of the historic Pat Keyes mining trail, the Salt Tram, and Dogtown, and development of interpretive trails along the old pack trail to Atastra Creek and along the historic railroad grade from Mono Basin to Bodie State Park. One project specifically omitted is the Golden Gate Mine.

When these efforts are combined with the development of an environmental education center in Bishop and the outreach through such a center, the long term positive impacts on cultural resources would be significant.

The establishment of a curatorial facility in the Owens Valley which would meet federal standards would have a significant positive benefit on management of cultural resources in the region; other collections would be returned to the valley; and students and the public would be able to study those collections in a single locale. The environmental education center would be the preferred location for such a facility where it could be tied in with other educational and interpretive efforts.

The effects of acquiring the private land at Swansea, limiting cross-country motor vehicle travel, mineral withdrawals at Dogtown and the Bishop Petroglyph Loop, and BLM's law enforcement efforts would be the same as in Alternative 1. Additional withdrawals in tule elk calving areas would have similar benefits to those in Dogtown.

Implementation of an active data recovery program at threatened sites, including continuation of our existing cooperative agreement program and encouraging research by academia, would have a significant beneficial effect on cultural resource management, much the same as in Alternative 1.

Protection of the area around Bodie would be the same as in Alternative 1. Additionally, protecting the integrity of the National Historic Landmark by defining levels of unnecessary and undue degradation through defining the limits of acceptable change would provide significant protection for the cultural values of Bodie.

Current fire management practices of inter-agency response with a resource advisor provided by BLM when fires are on Bureau lands would continue. A decision to have full suppression of fires throughout most of the resource area would result in increased



use of dozers, and require increased knowledge and vigilance by BLM resource advisors. There would be some significant negative impacts to cultural resource sites.

Access would continue to be available for pinyon nut harvesting; and commercial harvesting of pinyon nuts will be prohibited. However, cutting of live pinyon to meet DPC goals would have a slight negative effect on the amount of pinyon nuts available to local Indian communities.

Protection of the physical setting at Travertine would have a moderate beneficial effect on its value as a sacred site, and would have a positive effect on efforts to maintain traditional lifeways.

### **Conclusion:**

Under this alternative, the cultural resource management program would improve quite a bit over the existing situation. Educational and interpretive efforts, plus the creation of an environmental education center and storage facility in Bishop which would serve the entire eastern Sierra would be highly significant, and the best thing we could do to enhance long-term management of cultural resources in the area. It would help educate the public and encourage research. Implementing data recovery projects at threatened and vandalized sites and continuing our current cooperative agreement program would have significant benefits for data preservation and research. Protection of Bodie under current management would continue, while establishing limits of acceptable change for the area of the National Historic Landmark would significantly benefit preservation of the historic setting in and around Bodie. Full fire suppression could have major adverse effects on the resource.

Overall, there would be continued loss of cultural properties, but the loss from vandalism would decrease as people are better educated; and continuing our present cooperative agreement program and similar efforts for data retrieval would mitigate much of this loss. Effects on traditional lifeways would be much the same as in Alternative 1.

### **Alternative 4: Preferred Alternative**

With special emphasis by BLM on education and interpretation through the development of an environmental education center in Bishop, programs to work with teachers and schools, to develop and implement interpretive plans at appropriate historic and prehistoric sites, and develop interpretive displays at the Interagency Visitor Center, the public will become

much better educated and aware of the cultural resource values in the eastern Sierra, resulting in significant, long-term positive impacts on cultural resources through reduction of vandalism and illegal collection of artifacts. Specific projects and areas which would benefit under this alternative are the Bodie Hills, the Mono Basin, Adobe Valley, the Benton and Owens Valley areas, the historic Pat Keyes mining trail, the Golden Gate Mine, the Salt Tram, Dogtown, the old pack trail to Atastra Creek and the historic railroad grade from Mono Basin to Bodie.

The effects of establishing a curatorial facility in the Owens Valley which would meet federal standards, and of implementing an active data recovery program at threatened sites would be the same as in Alternative 3.

Acquisition of 1700 acres of LADWP land at Manzanar would allow protection and interpretation of a significant historic resource which is currently deteriorating.

Protection of the area around Bodie, and the effects of fire management practices would be the same as in Alternative 3.

Effects of continuing the mineral withdrawals at Dogtown and the Bishop Petroglyph Loop, and acquisition of Swansea would be the same as under Alternative 1.

Effects of pinyon management and protection of the physical setting at Travertine would be the same as in Alternative 3. Cooperative management efforts with the local Indian community would help meet their needs and concerns at Travertine.

Land would be made available for expansion of the Indian reservations at Benton and Fort Independence.

### **Conclusion:**

This alternative is very similar to Alternative 3, with additional areas recommended for acquisition, interpretation and protection. Educational and interpretive efforts, with the creation of an environmental education center and storage facility in Bishop, would greatly enhance long-term management of cultural resources. Acquisition of Manzanar and Swansea would be positive steps. Implementing data recovery projects at threatened sites and continuing our current cooperative agreement program would have significant benefits for data preservation and research. Protection of Bodie under current management would continue, while establishing limits of acceptable change for the area of the National Historic Landmark would significantly benefit preservation of the historic setting in the area.



As described in Alternative 3, there would be continued loss of cultural properties, but the loss from vandalism would decrease as people are better educated; and continuing our present cooperative agreement program and similar efforts for data retrieval would mitigate much of this loss. Local Indian communities' needs and concerns would be slightly better met under this alternative.

## **Impact of the East-West Transmission Line Corridor Alternatives**

### **Introduction**

The transmission line corridor study has been integrated with the RMP to ensure the corridor decision includes consideration of the full range of proposals within the RMP. Alternatives relating to the designation of existing major transmission lines as corridors are described in Chapter 2. The environmental impact of the corridor alternatives is described below.

The analysis of the No Action, No East-West Corridor Alternative evaluates the impact of not bringing additional power through the Owens Valley. The analysis of the three alternative east-west corridors focuses on major impacts to key natural resources, and human health and safety. The impact analysis documented below includes consideration of cumulative impacts.

### **No Action, No East-West Corridor Alternative**

Under this alternative no east-west corridor would be designated. No routes for transmission lines into the Owens Valley would be established.

The most significant impact would be a decrease in the reliability of the electricity supply, not only for southern California, but the entire Western Interconnected Network. The technical reasons provided by the utility industry for the decrease in reliability are explained in Appendix 8. Briefly, there is so much electricity going to Los Angeles via Las Vegas and Victorville (the only other major corridor available) that a sudden disruption from fire, earthquake, lightning, flood, wind, aircraft, vandalism, or sabotage could cause system outages throughout much of the western United States. Although there is considerable electricity going through the Owens Valley now, it is only about half that going through Las Vegas. System reliability would be higher if additional increments came through the Owens Valley rather than Las Vegas.

Depending on the location of energy sources in Nevada, transmission line routes to Los Angeles via Las Vegas may be 150 to 200 miles longer than corridors through the Bishop Resource Area. A 500 kv transmission line costs roughly \$500,000 per mile. This means that bringing a line through the Owens Valley could save utilities about \$100,000,000 in construction costs. However, such savings are unlikely. Energy produced in west-central Nevada can access the N-S Interlie via the Oxbow line or other possible access points along the Interlie north of the California-Nevada state line. Energy sources in east Central Nevada and southern Utah are generally as close or closer to existing corridors through Las Vegas. Thus, for most potential projects the distance traversed by transmission lines would not be increased under this alternative. Costs, therefore, would not be more, and may even be less because of the extensive mitigation measures that would be required to reduce visual and other impacts in the Owens Valley and the east-west study corridors.

Under this alternative energy would have to get to Los Angeles via routes other than through the Owens Valley. It is difficult to predict the environmental impact of transmission lines without knowing their location. However, the lines would generally follow existing corridors, and go through areas less environmentally sensitive than the study areas and the Owens Valley. Therefore, it is expected that even if the routes were longer than they would be through the Owens Valley, the environmental impacts would be less than under the other alternatives.

### **Conclusion:**

Although environmental impacts would be slightly less than under the other alternatives and construction costs would be about the same under this alternative, system reliability would be considerably less and could result in extended power outages over much of the west.

## **Pizona Alternative Corridor Area**

### **Impact on Wild Horse Habitat**

This alternative is located in the southern portion of the Montgomery Pass and White Mountain Wild Horse Herd ranges. Mitigation measures preclude construction of new roads within the area designated for semi-primitive recreation management (Prescription #17 of the Forest Plan). Mitigation measures also require the closure of roads built for the construction/maintenance of lines in other portions of the area. The resultant impacts to wild horse habitats and populations will be

insignificant. The most significant potential impact to wild horses could occur during powerline construction, but could be mitigated by precluding construction during spring and summer.

#### **Conclusion:**

Although there would be some disturbance to wild horses during construction, impacts to the population would be insignificant.

#### **Impact on Key Wildlife Habitats**

Location of a powerline through the Prescription #17 area would eliminate fawning habitat for 5-10% of resident deer. Roads permitted in conjunction with the powerline would remove an additional 10-30% of resident deer fawning habitat through direct and indirect effects. Pronghorn fawning habitat would be similarly impacted. The majority of the impacts would occur to deer and pronghorn areas on USFS lands.

#### **Conclusion:**

From 5-10% of the deer and pronghorn fawning areas in the corridor would be lost.

#### **Impact on Sensitive Plants**

No sensitive plants have been identified within the area. However, a high potential exists for the occurrence of sensitive plant species in the Montgomery Pass portion of the area. Powerline construction and location could be designed to avoid sensitive plants.

#### **Conclusion:**

No measurable impacts to sensitive plants are anticipated.

#### **Impact on Visual Resources**

Except for high points and ridges, most of the area cannot be seen from the main travel routes (i.e., U.S. Highway 6 and State Highway 120) or populated areas. A powerline corridor could be located in the area and, except for the Montgomery Pass area, it could meet the visual quality objective (VQO) of partial retention as seen from key viewpoints on USFS lands and VRM Class III on Bureau lands. Any highway-crossing in the Montgomery Pass area will not meet the VQO retention or partial retention standard. However, the Montgomery Pass area has been identified as the best location to cross U.S. Highway 6 and minimize the visual impacts of such a crossing. A crossing at Montgomery Pass makes a powerline

visible to the highway traveller for the shortest distance and the least amount of time than any other crossing location.

#### **Conclusion:**

Visual quality objectives would be met from key viewpoints except for the Highway 6 crossing near Montgomery Pass.

#### **Impact on Recreation**

One noted resource value of this area is the relatively natural and undisturbed character north of U.S. Highway 6. In this area, only a few primitive four-wheel drive roads provide motorized access. The location of a transmission line anywhere within the area will have significant negative impacts to its natural and undisturbed character, as well as to the semi-primitive recreation resource values and associated experiences of visitors.

In addition to the impact on semi-primitive recreation resources described above, there would be a cumulative effect because opportunities for undisturbed recreational experiences are decreasing. The loss of the undisturbed character of the Pizona area would contribute to this overall trend and push us toward a threshold of recreational impoverishment that could have psychological ramifications.

#### **Conclusion:**

There would be significant negative impacts to the area's natural and undisturbed character and the associated experiences of recreationists.

#### **Impact on Cultural Resources**

This area is rich in cultural resource values. Most impacts to cultural resources could be mitigated through avoidance (via design of a powerline's location and construction). Those sites which could not be avoided would need to be mitigated via data recovery. It can be expected that the need to survey, identify, and provide for mitigation of cultural resources would be an added cost to any powerline proposed through this area. If roadless construction techniques are used, impacts to cultural resources would be lessened. There would be no effects on traditional lifeways.

#### **Conclusion:**

Some cultural resources would be disturbed, but impacts would be lessened if roadless construction is used. There would be no effects on traditional lifeways.

## Impact on Prolonged Human Exposure to Electro-Magnetic Fields

Considerable concern was expressed during the public scoping process regarding the possibility of human health risks due to exposure to electro-magnetic fields (EMF) emitted by electric transmission lines. Concern focused on certain studies and recent news broadcasts which suggest that exposure to EMF may increase the risk of cancer.

Over the last 10 years, a growing number of epidemiological studies suggest that people who live or work near electric powerlines or equipment have an increased risk of cancer. The relative risks reported in these studies are low.

There have been several scientific reviews of the biological effects of electric and magnetic fields. They typically conclude that no link has been established between EMF and adverse human health effects. However, they point out that some studies suggest the possibility for adverse effects. The need for long-term research to resolve this issue is universally acknowledged (*Electrical and Biological Effects of Transmission Lines*, U.S. Dept. of Energy, 1989).

Until more conclusive evidence is produced, either supporting or dismissing the link between EMF and cancer, most studies are recommending prudent avoidance of prolonged exposure to EMF whenever reasonably feasible. Furthermore, research has shown that the effects of EMF from high voltage transmission lines is insignificant at distances in excess of 300 feet from centerline. Since there is no consensus on the health risks associated with EMF, this study will evaluate the degree of increase in prolonged human exposure to EMF that might be expected if a powerline were constructed through each of the corridor alternative areas. Based upon known research, that evaluation will be limited to people who live upon or regularly occupy and use lands within 300 feet on either side of transmission lines which would be constructed within each corridor alternative area.

The majority of the Pizona corridor area is either uninhabited by humans, or is so sparsely inhabited that powerlines could be located at least 300 feet from existing or potential residences. The only exception would be in the Montgomery Pass area where crossing U.S. Highway 6 would be necessary. Approximately 25 people live in the area, and it is also the site of a popular hotel/casino. Powerlines located within 300 feet of a residence or the hotel/casino in the Montgomery Pass area could increase prolonged human exposure to EMF. Otherwise, there would be no significant impact on prolonged exposure to EMF.

Depending upon occupation, appliances in the home, etc., people are exposed to varying magnetic fields for varying periods of time. Although the actual impact is unknown, it is possible that the cumulative effect of multiple exposures, including those that would result from transmission lines in this corridor, could be a threat to human health.

### Conclusion:

Approximately 25 people plus the users of a hotel/casino would have increased prolonged exposure to EMF. It is not known if this would constitute a health risk for these people.

## Queen Valley Alternative Corridor Area

### Impact on Wild Horse Habitat

The northeast third of this area is located in portions of the Montgomery Pass and White Mountain Wild Horse Herd ranges. It includes fewer key watering (spring) and foaling areas than the Pizona alternative area. Any powerline corridor within that area will have even less of an impact to wild horse habitat than the Pizona alternative. Mitigation measures similar to those identified in the Pizona analysis could be implemented.

### Conclusion:

There would be less impact to wild horse habitat than under the Pizona Corridor Alternative.

### Impact on Key Wildlife Habitats

The corridor location includes a large area of crucial mule deer winter range on Bureau land. The corridor would affect approximately 20-30% of this area. Habitat for 60-100 deer would be degraded or eliminated. A corridor through winter range along the toe of the White Mountains would affect habitat for approximately 5% of that deer subgroup. An insignificant amount of deer winter range and deer numbers would be affected by corridor location.

Pronghorn use Bureau lands as annual range in Benton Valley. The impact to pronghorn would be significantly less than on mule deer. This is due to the more dispersed use of the area by pronghorn. Slight to no impact would occur to pronghorn with lower locations on Bureau land.

### Conclusion:

Impacts to deer winter range would degrade or eliminate habitat for 60-100 deer. Impacts to pronghorn



would be much less than to deer (slight to no impact) because their use of the area is dispersed.

### **Impact on Sensitive Plants**

Sensitive plants have been identified on only a small portion of the area. Impacts to sensitive plants could be mitigated through appropriate tower location.

#### **Conclusion:**

No measurable impacts to sensitive plants are anticipated.

### **Impact on Visual Resources**

U.S. Highway 6 and State Highway 120 are classified as sensitivity 1 travel routes by the USFS. Most of the corridor is seen from these routes as foreground and middleground in the landscape. The White Mountain escarpment, the Benton Range, and the south edge of Pizona are seen as background.

The foreground/middleground areas have VQO's of partial retention for USFS lands. Bureau land east of Highway 6 is designated as VRM II, lands west of Highway 6 as VRM III. Any major powerline in this area could not avoid these foreground/middleground views. Due to the gently rolling topography and low growing vegetation, transmission lines would dominate the landscape. A powerline corridor would create long, linear modifications that could not meet the partial retention VQO or the VRM standard and serious degradation of the visual resource would occur.

#### **Conclusion:**

A powerline corridor would seriously degrade the visual resource. VQO and VRM standards would not be met.

### **Impact on Recreation**

The majority of this area has little remaining natural or semi-primitive resource values. The area has a high occurrence of man-made improvements and facilities. Impacts to semi-primitive or natural values in this area would be minimal.

#### **Conclusion:**

Impacts to semi-primitive or natural values would be minimal because these values have already been extensively disturbed by other developments.

### **Impact on Cultural Resources**

The number and occurrence of known cultural resource sites in this area is high. The impacts to cultural

resources from a powerline corridor in this area would be similar to the impacts identified above under the Pizona Alternative. There would be no effects on traditional lifeways.

#### **Conclusion:**

Impacts to cultural resources would be similar to those described for the Pizona Corridor Alternative.

### **Impact on Prolonged Human Exposure to Electro-Magnetic Fields**

Transmission lines located within this area could all be sited at least 300 feet from residences and areas of common human use/occupancy. Therefore, powerline construction in this area would have insignificant impacts on prolonged human exposure to EMF.

Cumulative impacts would be the same as described for the Pizona Corridor Alternative Area.

#### **Conclusion:**

There would be an insignificant increase in prolonged human exposure to EMF.

## **Soldier Canyon Alternative Corridor Area**

### **Impact on Key Wildlife Habitats**

The corridor location includes several thousand acres used by the Bishop and Tinemaha elk herds as calving and nursery areas (Figure 3-22). Elk would be affected during the construction and maintenance phases. Location of transmission lines and associated roads in elk calving areas would remove 10-30% of the habitat, and affect up to 30 elk with calves.

Location of the powerline within the general area of Tinemaha Reservoir and the Owens River would subject up to 20 bald eagles (endangered species) and 5-10 Ferruginous hawks (category 2) to electrocution or other mortality resulting from line strikes or similar accidents. Without mitigation mortality of each species would average 1 bird every 3 years. Raptor proof lines and cross-arms would reduce mortalities of each species to 1 bird every 10 years. Any bald eagle mortality would violate the Endangered Species Act of 1973, as amended. Each species would use towers as perch sites regardless of location in the corridor.

#### **Conclusion:**

Disturbances of elk during powerline construction and maintenance and the loss of habitat in calving areas



would measurably reduce elk populations. One bald eagle and one Ferruginous hawk could be killed every 10 years.

### **Impact on Sensitive Plants**

Impacts on large areas of sensitive plants that occur within this area generally could be mitigated by avoidance. However, because of the known occurrences of sensitive plant species in the area, there is high potential for discovering additional areas of sensitive plant species. Thus, there would be some loss of sensitive plants.

#### **Conclusion:**

Some loss of sensitive plants is anticipated.

### **Impact on Visual Resources**

A powerline corridor could be located within this area and meet the VQO of Partial Retention on USFS land and VRM Class III on Bureau land, except where it crosses Waucoba Road. Any powerline would dominate the view when it crosses the wide wash adjacent to this road. It would be the only major man-made visual impact along this segment of the road.

Powerlines at the base of the Inyo Mountains would likely be located on LADWP land. They would not be visible from U.S. Highway 395, State Highway 168, or Big Pine. The southern end of this corridor would be visible from U.S. Highway 395.

#### **Conclusion:**

Visual impacts from key observation points would be minimal, except where the corridor crosses the Waucoba Road.

### **Impact on Recreation**

One of the most noticeable resource values of this area is its relatively undisturbed, natural character. The Waucoba Road is the only significant improvement. The construction of any powerline will have significant negative impacts to the undisturbed character of the area. Primitive and natural values along a 4 mile section of WSA CA-010-060 (Paiute WSA) would be severely degraded by a major powerline project.

#### **Conclusion:**

There will be significant negative impacts to the natural, undisturbed character of the area.

### **Impact on Cultural Resources**

Impacts to cultural resources would be less than under the Pizona or Queen Valley Alternatives, due to the lower density of cultural resource sites. However, the density of sites is still high. There would be no effects on traditional lifeways.

#### **Conclusion:**

Impacts would be less than for the other two corridors because the density of sites is lower. There would be no effects on traditional lifeways.

### **Impact on Prolonged Human Exposure to Electro-Magnetic Fields**

This area is uninhabited, and receives little human use. There would be no significant increase in prolonged human exposure to EMF.

Cumulative effects would be the same as described for the Pizona Corridor Alternative Area.

#### **Conclusion:**

There would be no significant prolonged human exposure to EMF.

## Chapter 5

# Public and Other Agency Involvement



*Hikers on Long John Canyon Trail in the proposed Southern Inyo Wilderness.*



## Overview of the Process

The Council on Environmental Quality regulations (40 CFR 1501.7) and BLM's planning regulations (43 CFR 1610.4-1) require an early and open scoping process to determine significant issues to be analyzed in an EIS. The Bishop Resource Area consulted with other agencies, organizations, and individuals to identify the key issues upon which the plan should focus.

### Early Scoping

When plans for this RMP began in early 1988, the resource area staff identified many issues that would need to be addressed. The Notice of Intent (NOI) to prepare this plan was published in the *Federal Register* on June 27, 1988 (page 24153) and identified six preliminary issues.

The NOI stated there would be extensive public involvement with the objective that the final product be "a shared decision that involves the many agencies, organizations, and individuals that have an interest in the plan." Early in the process there were briefings of federal, state, county and city agencies and numerous organizations, and many individual contacts.

### Public Scoping Meetings

Six public meetings were held in Lone Pine, Bridgeport, Walker, Bishop, and Independence, CA in July of 1988. Notification was sent to a mailing list of about 650, and there were announcements in the local media.

Ninety-four people attended the scoping meetings. The results were summarized in a report sent to all attendees and to those on the mailing list. The preliminary issues identified in the NOI were generally confirmed at the meetings, and some new concerns were identified.

### Development of Planning Criteria

A Notice of Availability of proposed planning criteria was published in the *Federal Register* in September 1988. Planning criteria are the framework of laws, regulations, and policies within which a plan must be developed. Based on public and internal comments, revised criteria called Planning Guidelines were prepared and distributed in April and June 1989.

## Pre-DEIS Public Workshops

When the resource area had identified a tentative preferred alternative, a decision was made to conduct public workshops to obtain further input before the draft RMP was published.

The workshops were held in Bridgeport, Mammoth Lakes, Benton, Bishop, and Independence, CA in April 1990. A letter announcing the workshops and a summary of the alternatives were sent to those on the mailing list. There were several announcements in the media and key contacts were personally notified with many receiving detailed advanced briefings. Attendance was good (an average of 75 per workshop) and much valuable input was received. Several individuals stated that it was satisfying to give input at an early stage before a draft decision was published.

### Future Public and Agency Involvement

The next public input opportunity is to review and comment on this document. As stated in the cover letter, the 90-day comment period ends November 30, 1990. During October, meetings (dates, times, and places to be announced) will be held to further explain the draft decisions and to receive public comment.

Following the comment period, a proposed plan and final EIS will be prepared and distributed. At that point, any person or organization that is not satisfied with the plan will have 30 days to formally file a protest with the Director of the Bureau of Land Management. Detailed protest procedures can be found in 43 CFR 1610.5-2.

## Distribution of This Draft EIS

This document is being distributed to approximately 650 addresses including the following agencies, organizations, political entities, and libraries. Copies of the complete mailing list are on file at the Bishop Resource Area office.

### CONGRESSIONAL REPRESENTATIVES

Senator Alan Cranston  
Senator Pete Wilson

Representative Richard Lehman, District 18  
Representative William Thomas, District 20



## STATE SENATORS

John Garamendi, 5th District  
Bill Leonard, 25th District

## STATE ASSEMBLYMEN

Norman S. Waters, District 7  
Phillip D. Wyman, District 34

## FEDERAL AGENCIES

Bureau of Land Management  
Washington, D.C., Riverside, CA,  
and Carson City NV

Bureau of Mines  
Washington D.C., and Spokane, WA

Bureau of Reclamation  
Denver, Colorado

Fish and Wildlife Service  
Washington, D.C.

Minerals Management Service  
Washington, D.C.

National Park Service  
Washington, D.C. and Death Valley, CA

U.S. Geological Survey  
Reston, Virginia

Forest Service  
Washington, D.C., Bridgeport, Bishop,  
Mammoth Lakes, and Lone Pine, CA

Soil Conservation Service  
Bishop, CA and Minden, NV

Air Force  
Washington, D.C. and Edwards AFB, CA

Army Corps of Engineers  
San Francisco, California

Department of Energy  
Washington, D.C.

Environmental Protection Agency  
Washington, D.C. and  
San Francisco, CA

Federal Energy Regulatory  
Commission  
Washington, D.C.

## STATE AGENCIES

California Dept. of Fish & Game  
Bishop, Coleville and Long Beach, CA

California Dept. of Forestry  
Bishop, CA

California Dept. of Transportation  
Bishop, CA

California Division of Oil & Gas  
Sacramento, CA

California Farm Bureau Federation  
Sacramento, CA

California Highway Patrol  
Bishop, CA

California Regional Water Quality  
Control Board  
Sacramento and South Lake Tahoe, CA

California Resources Agency  
Sacramento, CA

California State Historic  
Preservation Office  
Sacramento, CA

Mono Lake State Reserve  
Lee Vining, CA

## COUNTY AND LOCAL OFFICIALS

Inyo County, Board of Supervisors  
Independence, CA

City of Bishop, City Hall  
Bishop, CA

Mono County, Board of Supervisors  
Bridgeport, CA

## COUNTY AND LOCAL AGENCIES

Bridgeport Public Utilities District  
Bridgeport, CA

Chamber of Commerce  
Bishop and Bridgeport, CA

City of Bishop, Planning Commission  
Bishop, CA

Inyo County, Administrator  
Independence, CA

Inyo County, Planning Department  
Independence, CA

Inyo County, Planning Commission  
Independence, CA

Inyo County, Mining & Natural  
Resources Commission  
Bishop, CA

Inyo County Water Department  
Bishop, CA

Long Valley Fire Department  
Crowley Lake, CA

Los Angeles Department of  
Water and Power  
Bishop and Los Angeles, CA

Mineral County Commissioner  
Hawthorne, NV

Mineral County Game Board  
Hawthorne, NV

Mono County Energy Management  
Department  
Mammoth Lakes, CA

Mono County Planning Department  
Bridgeport, CA

Mono County RCD  
Minden, NV

Mono Wildlife Council  
Coleville, CA

Nevada Department of Wildlife  
Fallon, NV

Town of Mammoth Planning Department  
Mammoth Lakes, CA

#### INDIAN ORGANIZATIONS

Big Pine Band of Paiute/Shoshone  
Indians

Bishop Indian Tribal Council

Bridgeport Paiute Tribe

Fort Independence Tribal Office

Lone Pine Band of Paiute/Shoshone  
Indians

Native American Heritage Commission  
Sacramento, CA

Owens Valley Band of Paiute/Shoshone  
Indians, Bishop

Uta Uta Gwaitsu Paiute Tribe, Benton

#### OTHER ORGANIZATIONS

American Motorcyclist Association  
Westerville, OH

American Rivers  
Washington, D.C.

Bishop Fly Rodders  
Bishop, CA

Bodie Bogies Snowmobile Club  
Bridgeport, CA

Bridgeport Gun Club  
Bridgeport, CA

California Association of 4WD Clubs  
Riverside, CA

California Native Plant Society  
Independence and Lone Pine, CA

California Wilderness Coalition  
Davis, CA

Cal-NV Snowmobile Association  
Rancho Cordova, CA

Cal-Trout  
Mammoth Lakes and San Francisco, CA

Concerned Citizens of Owens Valley  
Big Pine, CA

CORVA  
Huntington Beach, CA

Defenders of Wildlife  
Sacramento, CA

Desert Survivors  
Concord, CA

Eastern Sierra Audubon Society  
Bishop, CA

Great Basin Unified Air Pollution  
Control District  
Bishop, CA

High Desert MU Coalition  
Ridgecrest, CA

Inter. Mountain Bicycling Association  
Bishop, CA

Mono Lake Committee  
Lee Vining, CA

Native American Heritage Commission  
Sacramento, CA

Natural Resources Defense Council  
San Francisco, CA

Sierra Club  
Lone Pine, San Francisco and  
Santa Rosa, CA

SO-CAL OffRoad Club  
Burbank, CA

S.N.A.R.L.  
Mammoth Lakes, CA

Trust For Public Land  
San Francisco, CA

#### **LIBRARIES**

Inyo County Library,  
Big Pine Branch

Inyo County Library, Bishop Branch

Inyo County Library,  
Independence Branch

Inyo County Library,  
Lone Pine Branch

Mono County Library,  
Bridgeport Branch

Mono County Library, Lee Vining Branch

Mono County Library, Mammoth Branch

Mono County Library, Benton Branch

Mono County Library, Coleville Branch

# List of Preparers



*Saline Valley Salt Tram.*



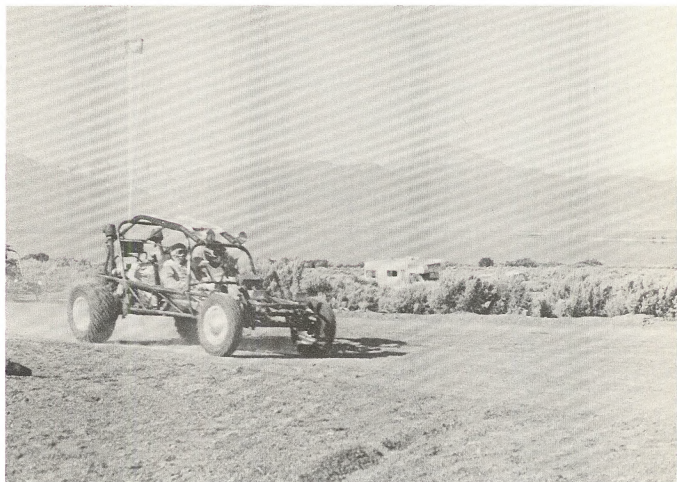


# List of Preparers

NAME	POSITION OR SPECIALTY	EDUCATION & EXPERIENCE
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Tim Burke	Range Conservationist	B.S. Range Management BLM, Range Conservationist - 12 years
Jenny Cheuvront	Administration Technician	Utah Tech. College, Exec. Secretary BLM, Clerical Assistant - 5 years Computer Assistant - 1 year
Douglas Dodge	Supervisory Resource Management Specialist	B.A. History Grad. Work Anthropology BLM, Outdoor Rec. Planner - 7 years Archaeologist - 5 years SRMS - 1 year
Mike Ferguson	Area Manager	B.S. Wildlife Management BLM, Wildlife Biologist - 14 years Area Manager - 1 year
Mark Gish	Range Conservationist	B.S. Range Management BLM, Range Conservationist - 14 years
Heather Harvey	Planner	Ph.D. Forestry - Management/Economics M.S. Forestry - Recreation B.S. Business Private industry 3 years State of Virginia - 7 years USFS - 10 years
Chris Horyza	GIS Coordinator	B.S. Range Management BLM, Range Conservationist - 10 years GIS Coordinator - 2 years
Jim Jennings	Outdoor Recreation Planner/Off-Highway Vehicles	B.S. Forestry/Resource Economics NPS, Park Technician - 3 years Peace Corps Volunteer National Parks-El Salvador-2 1/2 years BLM, Outdoor Rec. Planner - 11 years
Randy Karstaedt	Planner	B.S. Forest Management USFS Soil Scientist - 1 year Forester - 11 years Lands Officer - 2 years
David Lehmann	Realty Specialist	B.S. Forestry and Wildlife USFS, Recreation Technician - 3 years BLM, Recreation Planner - 7 years Natural Resource Spec. - 2 years Realty Specialist - 4 years

NAME	POSITION OR SPECIALTY	EDUCATION & EXPERIENCE
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Larry Mercer	Public Affairs Officer	Professional Journalism BLM, Public Affairs - 2 years
Mark Milliken	Geologist	M.S. Geology Engineering Geologist - 4 years Exploration Geologist - 2 years USDI, Geologist - 10 years
Steve Nelson	Wildlife Biologist/ GIS Specialist	B.S. Natural Resource Management BLM, Wildlife Biologist - 3 years
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Sylvia Stosser	Clerical Assistant/ Word Processing	Graphic Arts - Illustration - 10 years Clerical/Computer Operator/Language Translator - 6 years Accounting - 1 year
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Mark Ziegenbein	Geologist	BS Geology Industry Geologist - 3 years BLM, Geologist - 8 years

# Glossary



*Modesto Ridgerunner High Desert Rally near Bridgeport.*





## Glossary (Including Acronyms)

**ACEC.** Area of Critical Environmental Concern: An area within the public lands where special management attention is required to protect important historic, cultural, or scenic values, fish and wildlife or natural systems or processes, or to protect life and safety from natural hazards.

**ACTIVITY PLAN:** A detailed, site-specific plan for management of a single resource program or plan element undertaken as necessary to implement the more general resource management plan (RMP) decisions.

**ALLOCATED:** See Allotted.

**ALLOTMENT:** An area of land assigned to one or more livestock operators for grazing livestock. Allotments generally consist of BLM land but may also include state-owned and private land. An allotment may include one or more separate pastures. Livestock numbers and seasons of use are specified for each allotment.

**ALLOTTED:** An area of land determined by the RMP to be established as an allotment, to be used for grazing livestock.

**ALLUVIAL:** Relating to or formed by water carrying and depositing rocks, soils, and other materials.

**AMP.** Allotment Management Plan: A livestock grazing management plan for a specific allotment based on multiple-use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources-watershed, vegetation and wildlife. An AMP establishes the seasons-of-use, the number of livestock to be permitted on the range and the rangeland developments needed.

**AMS.** Analysis of Management Situation: A step in the BLM planning process that identifies existing management, physical resources and opportunities to meet the needs, concerns and issues identified through resource management planning. The AMS results in a reference document, which is kept in the Resource Area office. The AMS document is open for public inspection but is not distributed to the public.

**APPARENT TREND:** Immediate or short-term tendency, used mainly to record vegetative response to management actions.

**AQUATIC HABITAT:** Habitat that is inundated by water with a frequency sufficient to support a prevalent form of aquatic life.

**AQUIFER:** An underground body of rock or similar material capable of storing water and transmitting it to wells or springs.

**AUM.** Animal Unit Month: The amount of forage necessary for the sustenance of one cow or five sheep for 1 month.

**AVOIDANCE AREAS:** Land areas that pose particular environmental impacts which would be difficult or impossible to mitigate or which impose unusual engineering constraints.

**BACKCOUNTRY BYWAY:** A backcountry, nonpaved route designated for its scenic or recreation value. Often requires the use of a 4-wheel drive vehicle.

**BASAL AREA:** The cross sectional area of the stems or stems of a plant or of all plants in a stand. Herbaceous and small woody plants are measured at or near ground level; large woody plants are measured at breast or other designated height. Basal area is synonymous with basal cover.

**BASAL COVER:** See Basal Area.

**BASELINE:** Conditions, including trends, existing in the human environment before a proposed action is begun; a benchmark state from which all environmental consequences are forecast and all changes expected to occur under existing management are projected. (For National Environmental Policy Act (NEPA) purposes, existing management is the no-action alternative.)

**BASE PROPERTY:** Land that has the capability to produce crops or forage that can be used to support authorized livestock for a specified period of the year. Federal range grazing privileges (AUMs) are attached.

**BLM.** Bureau of Land Management.

**BREEDING HABITAT:** For sage grouse, dense brushy areas within 1 mile of a strutting ground with sagebrush canopy cover from 20-50%.

**BROWSE:** As a verb, to consume or feed on (a plant); as a noun, the tender shoots, twigs, and leaves of trees and shrubs often used as food by cattle, deer, elk, and other animals.

**CALVING AREA:** An area important for tule elk during the calving season (spring and early summer). It typically includes cover to hide calves from predators, and palatable and nutritious forage.

**CANDIDATE SPECIES:**

**Category I:** Plant and animal species for which the USF&WS currently has on file substantial information to support a proposal to list as threatened or endangered.

**Category II:** Plant and animal species for which current information indicates that a proposal to list as threatened or endangered is possibly appropriate, but for which more information is needed to support a listing proposal.

**CANOPY COVER:** The percentage of ground covered by a downward vertical projection of the outermost perimeter of the natural spread of plant foliage. Small openings within the canopy are included. Total canopy cover of all species may exceed 100 percent. Canopy cover is synonymous with crown cover.

**CARRYING CAPACITY (GRAZING):** The maximum stocking rate possible without inducing damage to vegetation or related resources such as watershed. Normally expressed in terms of acres per AUMs, or sometimes referred to as the total AUMs that are available in any given area, such as a grazing allotment.

**CFR.** Code of Federal Regulations.

**CLIMAX VEGETATION:** The final vegetation community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces. This differs from the potential natural community (PNC) in that it does not include naturalized non-native species.

**COMMON VARIETIES:** Mineral deposits which, although they may have value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts, do not possess a distinct special economic value over and above the normal uses of the general run of such deposits.

**COMMUNITY:** A group of plants and animals living together in a common area and having close interactions.

**COVER:** (see Basal Cover, Canopy Cover, Foliar Cover, and Ground Cover).

**CRMP.** Coordinated Resource Management Plan: A plan for management of one or more allotments that involves all the affected resources, e.g., range, wildlife and watershed.

**CRUCIAL WILDLIFE HABITAT:** Sensitive use areas that are necessary to the existence, perpetuation, or introduction of one or more species during critical periods of their life cycles.

**CULTURAL PROPERTIES:** Those fragile and nonrenewable remains of human activities, occupations, and endeavors as reflected in sites, buildings, structures, or objects, including works of art, architecture, and engineering. Cultural resource are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.

**CULTURAL RESOURCES:** A broad, general term which may refer to cultural properties, or to any traditional lifeway value of an identified social or cultural group.

**CULTURAL SITE:** A physical location of past human activities or events. Cultural resource sites are extremely variable in size and range from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features. Prehistoric and historic sites which are recorded as cultural resources have sociocultural or scientific values and meet criterion of being more than 50 years old.

**DBH.** Diameter Breast High: Is a measurement of the diameter of a tree at a point 4 1/2 feet above ground level on the uphill side of a tree.

**DC.** Direct Current

**DESIGNATED RIGHT-OF-WAY CORRIDOR:** A parcel of land, either linear or areal, that has been identified by law, by Secretarial Order, through the land use planning process, or by other management decision, as a preferred location for existing and future right-of-way grants and suitable to accommodate more than one type of right-of-way or one or more rights-of-way which are similar, identical, or compatible.

**DESIRED PLANT COMMUNITIES:** A plant community in which specific vegetative characteristics are defined to attain the desired goal for the aggregation of plants and animals living within the site.

**DISCRETIONARY:** Any action which the BLM has authority to either approve or deny.

**DWP:** Los Angeles Department of Water and Power

**EA. Environmental Assessment:** The procedure for determining the significance of impacts of some proposed action on a given environment and the documentation of the analysis. An EA may be preliminary to an EIS.

**ECOLOGICAL CONDITION:** The present state of vegetation of an ecological site in relation to the natural potential plant community (PNC) for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the PNC plant community. Ecological status was formerly known as range condition.

**ECOLOGICAL SITE:** A distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differs from that of other ecological sites in the kind or proportion of species or in total production. Ecological site is synonymous with range site.

**ECOSYSTEM:** A complex self-sustaining natural system which includes living and nonliving components of the environment and the circulation of matter and energy between organisms and their environment.

**ECOTONE:** The zone of intergradation where two plant communities come into contact.

**EIS. Environmental Impact Statement.**

**ENDANGERED SPECIES:** An animal or plant whose prospects of survival and reproduction are in immediate jeopardy, and as further defined by the Endangered Species Act of 1973, as amended.

**ESA. Endangered Species Act of 1973 (as amended):** Federal laws to ensure that no federal action will

jeopardize the continued existence of federally listed or proposed threatened or endangered species of plants or animals.

**EXCLUSION AREAS:** Land areas determined to be unavailable for corridor allocation or facility siting for reasons of unsuitability, legislative classification or prior, unalterable allocation to uses incompatible with facility siting.

**FAWNING AREA:** An area important for mule deer and pronghorn during the fawning season (early summer). It typically includes good vegetative cover to hide fawns from predators and protect them from severe weather.

**FAWNING COVER:** For deer, an association of low shrubs or small trees from 2-6' tall under a tree overstory of approximately 50% crown cover with a minimum stand size of 1 acre.

**FIRE MANAGEMENT:** The integration of fire protection, prescribed burning, and fire ecology knowledge into multiple use planning, decision making, and land management activities. Fire management is a program of placing fire in perspective with overall land management objectives to fulfill the needs of society.

**FLPMA. Federal Land Policy and Management Act of 1976:** Public Law 94-579, which gives the BLM legal authority to establish public land policy, to establish guidelines for administering such policy and to provide for the management, protection, development and enhancement of the public land.

**FOLIAR COVER:** The percentage of ground covered by a downward vertical projection of the aerial portion of plan foliage. Small openings in the canopy are excluded. Foliar cover is always less than canopy cover. Total foliar cover of all species may exceed 100 percent.

**FORAGE:** Vegetation of all forms available for animal consumption.

**FORB:** A broadleaved herb other than grass.

**FREQUENCY:** A quantitative expression of the presence or absence of individuals of a species in a population. It is defined as the percentage of occurrence of a species in a series of samples of uniform size.

**FUELWOOD:** Wood cut in short lengths to be used for use in fireplaces and wood stoves.



**FULL FIRE SUPPRESSION:** An all-out effort to extinguish wildfires to prevent unacceptable resource damage or loss of life and property. Includes bulldozers, retardant drops, etc.

**GOAL:** The desired state or condition that a resource management policy or program is designed to achieve. A goal is usually not quantifiable and may not have a specific date by which it is to be completed. Goals are the bases from which objectives are developed.

**GRAZING PREFERENCE:** The total number of AUMs of livestock grazing on public lands apportioned and attached to base property owned or controlled by a permittee or lessee.

**GRAZING SYSTEM:** Sequence of livestock grazing, by area, designed to accomplish management objectives.

**GROUND COVER:** The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, gravel, cobble, stones, boulders, and bedrock. Ground cover plus bare ground would total 100 percent.

**HABITAT:** A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

**HIDING COVER:** An association of large shrubs and/or trees which offer the ability to hide 90% of a standing deer (as an example) at 200' over a minimum of 0.75 acres.

**HMP. Habitat Management Plan:** A written and officially approved plan for a specific geographic area which identified wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives and outlines procedures for evaluating accomplishments.

**IMPACT TOPIC:** A resource or environmental condition which is analyzed to determine how it will change under the different alternatives.

**INTERDISCIPLINARY APPROACH:** Cooperative, interactive consultation and analysis among individuals representing two or more disciplines. Such an approach should "insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making, which may have an impact on man's environment" [NEPA 102(2)(A)].

**INTERMITTENT STREAM:** Streams that do not contain water year-round or for the entire length of the stream course.

**INVENTORY:** A listing of the resource (and location), natural and manmade, which characterize a land area. It is a static picture of the basic resource situation describing the quantity and quality of such attributes of land geology, vegetation, soil, and water resources. A resource inventory provides a data base that can then be periodically updated, and trends illustrated, by suitable monitoring techniques.

**KEY AREA:** A relatively small portion of a rangeland selected because of its location, use, or grazing values as an area on which to monitor the effects of grazing use. It is assumed that key areas, if properly selected, will reflect the effects of current grazing management over all or part of a pasture, allotment, or other grazing unit.

**KOP. Key Observation Point:** One or a series of points on a travel route or at a use area or a potential use area, where the view of a management activity would be most revealing. This includes all federal, state, and county maintained roads; recreation use trails, campgrounds, scenic overlooks, day use areas, etc.

**KV:** Kilovolt.

**LAND TREATMENT:** Alteration of the soil and/or vegetation of an area by mechanical, biological, or chemical means, or by burning. Land treatments are implemented to reduce erosion or improve vegetation for livestock or wildlife.

**LEASABLE MINERALS:** Minerals such as coal, oil shale, oil and gas, phosphate, potash, sodium, geothermal resources and all other minerals that may be acquired under the Mineral Leasing Act of 1920, as amended.

**LEK:** Sage grouse strutting grounds used during the mating season for courtship displays.

**LIMITED SUPPRESSION:** A policy of limiting fire suppression activity in areas where the expense associated with usual suppression procedures is not warranted (usually because of extreme suppression difficulty or because the values threatened are low or where normal fire suppression methods would cause undesired resource damage).

**LIVESTOCK TRAILING:** The intentional movement of livestock by herding them from one location to another.

**LOCATION:** See Mineral Entry

**LOCATABLE MINERALS:** Any valuable mineral that is not salable or leasable, including gold, silver, copper, tungsten and uranium, etc.

**M, I, AND C CATEGORIZATION:** The grouping of allotments into three different categories (M=maintain, I=improve, and C=custodial) for management purposes.

**MAJOR UTILITY LINES:** All electrical transmission lines of 115 kv capacity or above.

**MFP. Management Framework Plan:** A planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of FLPMA.

**MINERAL ENTRY:** The filing (location) of mining claims with the BLM by an individual to protect his right to a valuable (locatable) mineral.

**MINERAL ESTATE:** Mineral and/or subsurface ownership.

**MINERAL MATERIALS:** Common varieties of sand, building stone, gravel, clay, moss rock etc. obtainable under the Mineral Act of 1947, as amended.

**MINERAL WITHDRAWAL:** Closure of land to mining laws, including sales, leasing and location, subject to valid existing rights.

**MITIGATE:** Actions to avoid, minimize, reduce, eliminate, or rectify the adverse impacts of a management practice.

**MONITORING:** The orderly collection and analysis of data to evaluate progress in meeting resource management objectives. Monitoring may also include: (1) the collection of data to evaluate progress in complying with laws, regulations, policies, executive orders, and management decisions, and (2) the collection of data to assist in resource protection. Sampling of data and observation of progress toward plan objectives, the accuracy of impact analysis, and the effectiveness of mitigation measures are also of particular interest in terms of RMP monitoring activities.

**MSA. Management Situation Analysis:** See AMS. Analysis of Management Situation.

**MULTIPLE-USE:** Management of public lands and their various resource values so that they are used in the combination best meeting the present and future needs of the American people. Relative resource values are considered, not necessarily the combination of uses that will give the greatest potential economic return or the greatest unit output.

**NATIONAL HISTORIC LANDMARK:** A site, structure or object judged by the Secretary of Interior to possess national significance in American history, archeology, architecture, engineering and culture.

**NATIONAL WILD AND SCENIC RIVER SYSTEM:** Rivers with outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-flowing condition.

**NATIONAL WILDERNESS PRESERVATION SYSTEM:** A system composed of federally owned areas designated by Congress as wilderness areas. These areas shall be administered for the use and enjoyment of the American people; management actions will preserve wilderness values for future use and enjoyment.

**NCA. National Conservation Area:** An area of public lands managed by the Bureau of Land Management which has been established by Congress for the purpose of protecting and conserving identified resource values of national interest. An NCA is managed for multiple use and sustained yield in conformance with the Resource Management Plan.

**NEPA. National Environmental Policy Act of 1969.**

**NESTING COVER:** For sage grouse, within 2 miles of strutting grounds, big sagebrush height would range between 12-24" with a shrub canopy cover ranging from 20-40% and a density of 1 big sagebrush plant for every 4-9 ft<sup>2</sup>

**NHPA. National Historic Preservation Act:** The primary federal law providing for the protection and preservation of our cultural resources. Making it a national policy to preserve our cultural heritage, NHPA established the National Register of Historic Places, the Advisory Council on Historic Preservation and State Historic Preservation Officers.

**NOI. Notice of Intent:** This term has two distinct meanings. 1) A notice submitted to BLM by a geophysical exploration company outlining a

proposed mineral exploration program. This is a non-discretionary action, meaning that BLM cannot prohibit it and 2) A notice printed in the *Federal Register* announcing that the agency is going to do an RMP and/or and EIS.

**NRHP. National Register of Historic Places:** A list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology and culture maintained by the Secretary of the Interior. Expanded as authorized by Section 2(b) of the Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1)(A) of the National Historic Preservation Act.

**NSO. No surface Occupancy:** Areas which need to be protected from surface-disturbing activities. Actions that do not cause surface disturbance and (or) are determined not to affect the resource involved, may be allowed.

**OBJECTIVE:** The planned actions taken within a stated time period that are measurable to achieve the desired results specified by a goal. Objectives are subordinate to goals.

#### OFF-HIGHWAY VEHICLE DESIGNATIONS:

**Open:** Means an area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in Subparts 8341 and 8342 of this title.

**Limited:** Means an area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following type of categories: Numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

**Closed:** Means an area where off-road vehicle use is prohibited. Use of off-road vehicle use is prohibited. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

**OHV. Off-Highway Vehicle:** Any motorized vehicle designed for cross-country travel over any type of natural terrain. Exclusions (from Executive Order 11644, as amended by Executive Order 11989) are any military, fire, emergency or law enforcement vehicles while being used for emergency purposes, any vehicle whose use is expressly

authorized or otherwise officially approved, vehicles in official use and any combat support vehicle in time of national defense emergencies.

**PASTURE:** As used in this document, a subdivision of a grazing allotment.

**PATENT:** A government deed that conveys legal title for land to an individual or another government entity.

**PERENNIAL STREAM:** A stream that flows throughout the year.

**PERMITTEE (GRAZING):** A person who has livestock grazing privileges on an allotment or allotments within the Resource Area.

**PETROGLYPH:** Prehistoric rock art, pecked into a stone surface.

**PLACER MINING:** That form of mining in which the surficial detritus (surface soil) is washed for gold or other valuable minerals.

**PLAN AMENDMENT:** A change in a RMP initiated by the need to consider monitoring and evaluation findings, new data, new or revised policy, a change in circumstances or a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions and decisions of the approved plan. An amendment shall be made through an EA of the proposed change or an EIS if necessary. If an EIS is prepared, a 90-day public review period is required.

**PLANNING CRITERIA:** The standards or rules and other factors developed by the manager and interdisciplinary team for their use in forming judgments about decision making, analysis, and data collection during planning.

**PLAN OF OPERATIONS:** As used in this document, a plan submitted by an operator (lessee or mining claimant) which outlines in detail proposed exploration and mining activities that would disturb more than 5 acres.

**PLANT VIGOR:** The relative well-being and health of a plant as reflected by its ability to manufacture sufficient food for growth and maintenance.

**PNC. Potential Natural Community Vegetation:** The final vegetation community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces.

**PRESCRIBED FIRE:** The skillful application of fire to natural fuels under conditions of weather, fuel moisture, soil moisture, etc., that will allow confinement of the fire to a predetermined area and at the same time produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives of wildlife management, grazing, hazard reduction, etc. Its objective is to employ fire scientifically to realize maximum benefits at minimum damage and acceptable cost.

**PUBLIC LAND:** Vacant, unappropriated and unreserved land that never left federal ownership; also, land in federal ownership obtained in exchange for public land or for timber on public land; land administered by the BLM.

**RANGE IMPROVEMENT:** An authorized activity or program on or relating to rangelands which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; and provide habitat for livestock, wild horses and burros, and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical means to accomplish the desired results.

**RANGE SITE:** See ecological site.

**RARE SPECIES:** A plant species that, although not presently threatened with extinction, is in such small numbers throughout its range that it may be endangered if its environment worsens; the "rare" category is a State category, not a federal one.

**REACH:** A continuous unbroken stretch of a stream with homogeneous characteristics; an extremity of a stream; a specified portion of a stream.

**RECOVERY:** The achievement of viable populations of threatened or endangered plant or animal species.

**RECREATIONAL OPPORTUNITY:** Those outdoor recreational activities which offer satisfaction in a particular physical, social and management setting in the EIS area. These activities are primarily hunting, fishing, wildlife, viewing, photography, boating and camping.

**RECRUITMENT:** Replenishment. In terms of wildlife biology, to achieve successful reproduction or to replenish a supply of habitat elements, such as snags or down logs.

**RESOURCE AREA:** The smallest administrative subdivision of a BLM district.

**RIGHT-OF-WAY:** The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. Also, the lands covered by such a right.

**RIGHT-OF-WAY CORRIDOR:** See Designated ROW Corridor.

**RIPARIAN DEPENDENT RESOURCES:** Free or unbound water-dependent vegetation, wildlife, fish (and other aquatic animals), soil, and water.

**RIPARIAN AREA:** Geographically delineated areas with distinctive resource values and characteristics that include: 1. areas of land that are directly influenced by free or unbound water and have visible vegetative or physical characteristics reflecting this influence, 2. the stream channel, spring, or water body which comprises the aquatic environment and the biotic communities there in.

**RMP. Resource Management Plan:** A written land use plan that outlines BLM's decisions and strategies for management of the resources in a particular area. The RMP replaces the MFP in BLM's planning system.

**ROADED NATURAL:** Area is characterized by predominantly natural appearing environments with moderate evidences of the sight and sound of man. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities.

**RMA. Recreation Management Area:** An area requiring explicit recreation management to achieve the bureau's recreation objectives and to provide specific recreation opportunities. Special management areas are identified in the RMP, which also defines the management objectives for the area. The BLM's recreation investments are concentrated in these areas.

**ROW. Right-Of-Way**

**R&PP. Recreation and Public Purposes Act:** This act authorizes the Secretary of the Interior to lease or convey public land for recreational and public



purposes under specified conditions to states or their political subdivisions and to nonprofit corporations and associations.

**SALABLE MINERALS:** See Mineral Materials

**SCC:** Southern California Edison.

**SCENIC BYWAY:** A paved or all-weather, maintained road designated for its scenic or recreational values.

**SCOPING PROCESS:** An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, written comments in response to news releases, direct mailings and articles about the proposed action and scoping meetings.

**SEASONAL PROTECTION:** During the period specified, no discretionary actions which would adversely affect target resources would be allowed. Existing uses and casual use would be managed to prevent disturbance which would adversely affect the target resources. Locatable mineral exploration and development could continue, with appropriate mitigation.

**SEASON OF USE:** The time of livestock grazing on a range area.

**SEDIMENT:** Soil or mineral material transported by water and deposited in streams or other bodies of water.

**SEDIMENT YIELD:** The total amount of eroded material that completes the journey from its sources to a downstream control point, such as a reservoir.

**SENSITIVE SPECIES (PLANTS AND ANIMALS):** Species occurring on public lands and requiring special management attention to protect it and to prevent irreparable damage to the important resources or other natural systems or processes on which it depends. The sensitive list is made up of species listed in category 3c in the Federal Register, Vol. 50 No. 188, September 27, 1985, page 39526.

**SERIAL COMMUNITY:** One of a series of biotic communities that follow one another in time on any given area. Seral community is synonymous with

successional community and may be synonymous with seral stage and successional stage.

**SHPO.** State Historic Preservation Officer: The official who is appointed by the Governor to be responsible for administering the State Historic Preservation Program pursuant to Section 101(b)(1) of the National Historic Preservation Act.

**SITE POTENTIAL:** The biotic community (plant and animal) which would become established if all successional sequences were completed without interference by man under the present environmental conditions.

**SLASH:** The residue left on the ground after timber cutting or after other disruptions such as storms or fires. Slash includes unutilized logs, uprooted stumps, broken stems, branches, twigs, leaves, bark, and chips.

**SNAG:** A standing dead tree from which the leaves and most of the branches have fallen.

**SPECIAL STATUS SPECIES:** Wildlife and plant species either federally listed or proposed for listing as endangered or threatened, state-listed or BLM-determined priority species.

**SPECIES OF CONCERN:** Plant or animal species which have no formal classification under the Endangered Species Act of 1973 (as amended), but due to low population level or limited available habitat require special management actions to insure their continued existence. Management actions are designed to prevent formal listing of the species.

**SPLIT ESTATE:** The surface estate and the mineral estate of parcel of land belong to different owners.

**SPM.** Semi-Primitive Motorized: Area is characterized by a predominantly natural of natural-appearing environment of moderate-to-large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted.

**SPNM.** Semi-Primitive Non-Motorized: Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Interaction between users is low, but there is often evidence of other users. There area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.

**STABILIZATION (CULTURAL):** Protective techniques usually applied to structures and ruins to keep them in their existing condition, prevent further deterioration, and provide structural safety without significant rebuilding.

**STIPULATION:** A requirement, usually dealing with protection of the environment, that is made a part of a lease, grant, or other authorizing document.

**STOCKING RATE:** An expression of the number of animals and the grazing period allotted to a specific area. It is usually expressed as a ratio, such as acres/AUM.

**STREAM BANK SOIL ALTERATION RATING:** A rating, by class, which reflects the changes taking place in the bank from any force. The streambank is evaluated on the basis of how far it has moved away from optimum conditions for the respective habitat type.

**SUBSURFACE MINERALS:** Minerals found below the earth's surface, including oil and gas.

**THERMAL COVER:** An association of shrubs, saplings and/or conifers at least 5' tall with 75% or more crown cover with a minimum size of 2 acres and 300' width. Cover used by deer (as an example) to assist in maintaining normal body temperature.

**THREATENED SPECIES:** Any plant or animal species that is likely to become an endangered species throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

"Threatened species" under the California Endangered Species Act means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."

**TRADITIONAL LIFEWAY VALUE:** Something which is useful in or important to the maintenance of a specified social or cultural group's traditional systems of (a) religious belief, (b) cultural practice, or (c) social interactions, and need not be closely identified with definite locations. Such a group's

shared values are usually abstract, nonmaterial, ascribed ideas that one cannot know without being told.

**TRANSMISSION LINE CORRIDOR:** The preferred location of future electric transmission lines.

**TRESPASS:** The use of public land without proper authority, resulting either from a willful or negligent act.

**UNALLOCATED:** Same as Unallotted.

**UNALLOTTED:** Refer to an area of land which BLM has determined that shall not to be grazed by livestock.

**UNDERSTORY:** Low-growing vegetation such as grasses, shrubs, or small trees growing under a stand of trees. Also that portion of trees in a forest stand below the overstory.

**UNNECESSARY AND UNDUE:** Impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, including use of the best reasonably available technology.

**UTILITIES:** All privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communication signals, electrical energy, or petroleum and fossil fuel products.

**UTILIZATION:** The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). May refer to either a single plant species, a group of species, or the vegetation as a whole. Utilization is synonymous with use.

**VEGETATION TYPE:** A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates the aspect by physiognomy of the area.

**VIALE POPULATIONS:** Reproducing populations of plants or animals of sufficient numbers and distribution to assure indefinite perpetuation of the species.

**VIEWSHED:** The landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint or along a transportation corridor.

**VISUAL RESOURCES:** The visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features) which result in scenic quality.

**VRM. Visual Resource Management:** Management system containing specific objectives for maintaining or enhancing visual resources, including the amount of acceptable change to the existing landscape to meet established visual goals.

**WATER QUALITY:** The chemical, physical and biological characteristics of water with respect to its suitability for a particular use.

**WATER TABLE:** The upper level of an unconfined underground water body.

**WATERSHED:** A total area of land above a given point on a waterway that contributes runoff water to the flow at that point.

**WATERSHED CONDITION:** An assessment, or categorization, of watershed in terms of current erosion conditions, erosion hazards and the soil moisture/temperature regime.

**WETLANDS:** Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river over-flows, mud flats, and natural ponds.

**WILDERNESS AREA:** An area officially designated as wilderness by Congress. Wilderness areas will be managed to preserve wilderness characteristics and shall be devoted to the public purposes of conservation and recreational, scenic, scientific, education, and historical uses.

**WILDERNESS MANAGEMENT POLICY:** The BLM policy that governs administration of public lands designated as wilderness areas by Congress. It is based on the Wilderness Act of 1964 and FLPMA

of 1976. FLPMA requires a wilderness area to be a roadless area or island that has been inventoried and found to have wilderness characteristics as described in Section 603 of FLPMA and in Section 1(c) of the Wilderness Act.

**WILDLIFE:** All species of mammals, birds, fish, amphibians, and reptiles found in a wild state.

**WILDLIFE ASSEMBLAGE:** A group of species associated with a particular habitat type or region.

**WINTER RANGE:** An area important for terrestrial wildlife species during the winter months. It typically includes palatable and nutritious shrub species on lands mostly free of snow during the winter.

**WITHDRAWAL:** Actions which restrict the use of public land and segregate the land from the operation of some or all of the public land and/or mineral laws. Withdrawals are also used to transfer jurisdiction of management to other federal agencies.

**XERIC HYDROLOGIC CLASS:** A site occurring on a slope or bench, seasonally recharged by precipitation, and becoming quite dry during summer.

**YEARLONG PROTECTION:** No discretionary actions which would adversely affect target resources would be allowed. Existing uses and casual use would be managed to prevent disturbance which would adversely affect the target resources. Locatable mineral exploration and development could continue, with appropriate mitigation.

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*Conway Summit Scenic View from U.S. Highway 395.*





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# Appendices



*Rancherla Gulch.*





## Appendix 1 Desired Plant Community Definitions

### Desired Plant Community for Jeffrey Pine in Dry Creek in the Granite Mountain Management Area and Doe Ridge in the Long Valley Management Area.

Desired plant community for Jeffrey pine: Jeffrey pine (*Pinus jeffreyi*) density (% canopy/crown cover) would not be reduced from present level. The goal is to maximize wildlife habitat diversity. Insure an average of 1 snag tree per 5 acres with minimum 16 inch diameter at breast height (DBH) and 30-48 feet tall. Retain in place an average of 2 uncharred class one or class two logs per 5 acres with a minimum size of 21 inch DBH and 20 feet long. Do not disturb or burn any class three, four or five logs. Leave other fallen limb slash in place on at least 25% of the area.

### Desired Plant Community for Bristlecone and Limber Pine in the South Inyo Management Area.

Desired plant community for the subalpine forest above 9,000 feet elevation of which the bristlecone pine (*Pinus aristata*) is the outstanding assemblage species: The goal of the DPC is to retain the current composition of plant species within the assemblage. The subalpine forest occupies approximately 1,500 acres and occurs at this single site in the resource area. Limber pine (*Pinus flexilis*) shares the overstory. The bristlecone pine would be maintained within the subalpine forest assemblage  $\geq 6\%$  of plant composition over the long term. The limber pine would also represent  $\geq 6\%$  of plant composition over the long term. All dead and down woody material would be left in place. All snag trees (no minimum height) would be left in place.

### Desired Plant Community for Sand Dunes in the Owens Lake and South Inyo Management Areas.

Desired plant community for stabilized and partially stabilized desert dunes along the periphery of Owens Lake: The goal of the DPC is to insure adequate vegetative cover and microclimatic condition for the Category 2 species *Trigonoscuta owensi*, Owens sand dune snout beetle. Dunes and accumulations would be maintained through retention of present vegetative cover which varies from scant cover of widely scattered shrubs and herbs to nearly closed shrub canopies. Plants which predominate in the dune areas and are primarily responsible for stabilization of dune hummocks are *Atriplex confertifolia*

(spiny saltbush), *Atriplex hymenelytra* (desert holly), *Atriplex polycarpa* (cattle spinach), *Franseria dumosa* (burro weed), *Sarcobatus vermiculatus* (black grease-wood), and *Suaeda torreyana* (seep weed). Maintain the current overall vegetative cover of approximately 7% in the dune habitat.

### Desired Plant Community for Big Sagebrush/Low Sagebrush/Bitterbrush in the South Inyo Management Area.

Desired plant community description for the big sagebrush (*Artemisia tridentata*) low sagebrush (*A. arbuscula*) - bitterbrush (*Purshia tridentata*) vegetation type above 8400 feet elevation: The goal of the DPC is to maximize vegetative habitat characteristics for management indicator species like mule deer. For those areas with site potential, mule deer habitat characteristics will include hiding cover: vegetation at least 17 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover would consist of shrubs offering the hiding capability on a minimum of 0.75 acres. Thermal cover requirements, generally, cannot be met for deer in this vegetation type. Fawning habitat should consist of low shrubs  $\geq 2.0$  feet with at least 40% canopy cover and minimum patch size of 0.25 acres. No characteristics are assigned for fawning site understory vegetative cover. Ratios of habitat types within deer range should provide 55% forage area, 35% hiding cover and 10% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush.

### Desired Plant Community for Big Sagebrush/Bitterbrush in the Owens Valley Management Area.

Desired plant community description for the big sagebrush (*A. tridentata*) - bitterbrush (*P. tridentata*) vegetation type: The goal of the DPC is to maximize vegetative habitat characteristics for management indicator species like mule deer and tule elk. For those areas with site potential mule deer habitat characteristics will include hiding cover: vegetation at least 24 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover should be a minimum of 5 acres in size. Thermal cover would consist of stands of evergreen trees and/or shrubs at least 5 feet tall with a crown cover of  $\geq 75\%$ . Minimum stand size should be 2 acres and a stand width  $\geq 300$  feet. Fawning habitat should consist of low shrubs or small trees  $\geq 2.2$  feet with at least 40% canopy cover and minimum patch size of 1 acre. Fawning site understory vegetative cover

should range from 70-90% (along stream riparian and riparian - shrub ecotones). Ratios of habitat types within deer range should provide 55% forage area, 20% hiding cover, 10% thermal cover and 15% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush and perennial grasses.

Vegetation requirements of Tule elk are poorly understood for the Owens Valley. However, hiding cover on Bureau lands would likely be adequate for elk where vegetation is at least 40 inches tall and capable of concealing 90% of a bedded elk at 150 feet. Patches of hiding cover should be minimum of 5 acres in size. Characteristics for thermal cover and fawning habitat are unknown. Vegetation composition on Bureau lands should be maintained west of Highway 395 for its current value as elk forage.

#### **Desired Plant Community for Big Sagebrush/ Bitterbrush In the Benton, Granite Mountain, and Coleville Management Areas.**

Desired plant community description for the big sagebrush (*A. tridentata*) - bitterbrush (*P. tridentata*) vegetation type: The goal of the DPC is to maximize vegetative habitat characteristics for management indicator species like mule deer and pronghorn. For those areas with site potential, mule deer habitat characteristics will include hiding cover: Vegetation at least 24 inches tall and capable of concealing 90% of a bedded adult deer at 150 feet. Patches of hiding cover should be a minimum of 8 acres in size. Thermal cover would consist of stands of evergreen or deciduous trees and shrubs at least 5 feet tall with a crown closure of  $\geq 75\%$ . Minimum stand size should be 2 acres and a stand width  $\geq 300$  feet. Fawning habitat should consist of low shrubs or small trees  $\geq 2.2$  feet with at least 40% canopy cover and minimum patch size of 1 to 5 acres and understory vegetative cover should range from 70-90% (only along stream riparian and riparian - shrub ecotones). Ratios of habitat types within deer range should provide 55% forage area, 20% hiding cover, 10% thermal cover and 15% fawning habitat. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. In mule deer foraging areas, management will seek to maximize cover and vigor of bitterbrush where possible.

For those areas with site potential, pronghorn vegetative habitat characteristics would include 10-40% grass, 5-15% forbs and 10-45% shrubs by composition with ground cover averaging 50%. Mean vegetation height would be 15 inches. A minimum of 750-1000 lbs/acre of air dried pronghorn forage should be available following livestock turnout.

#### **Desired Plant Community for Big Sagebrush/ Bitterbrush In the Long Valley Management Area.**

Desired plant community description for the big sagebrush (*A. tridentata*) - bitterbrush (*P. tridentata*) vegetation type: The goal of the DPC is to maximize vegetative habitat characteristics for the sage grouse, a management indicator species. The description applies to the various vegetative components within a 2 mile radius of a strutting ground. The area up to 1 mile from a lek would be managed for 30-40% shrub canopy cover. The area from 1-2 miles from a lek would be managed for 20-50% shrub canopy cover. Within the 2 mile radius, big sagebrush and bitterbrush height would range between 12-14" over 60% of the area with a density of 1 plant for every 4-9 ft<sup>2</sup> with a grasslike understory of 1 plant per 0.75 ft<sup>2</sup>. Preference would be given to sage grouse habitat needs where mule deer and sage grouse habitat overlap.

#### **Desired Plant Community for Big Sagebrush/ Bitterbrush In the Bodie Hills and Bridgeport Valley Management Areas.**

Desired plant community description for the big sagebrush (*A. tridentata*) - bitterbrush (*P. tridentata*) or big sagebrush/bitterbrush/aspen (*P. tremuloides*) vegetation type: The goal of the DPC is to maximize vegetative habitat characteristics for management indicator species like sage grouse and mule deer. The DPC will apply to those areas identified as habitat for sage grouse and mule deer on the GIS resource maps. For sage grouse the description applies to the various components of the vegetation within 2 miles of a strutting ground (lek). Dense brushy areas up to 1 mile from a lek would be managed for 30-40% shrub canopy cover. The area from 1-2 miles from a lek would be managed for 20-50% shrub canopy cover. Within the 2 mile radius, big sagebrush and bitterbrush height would range between 12-14" over 60% of the area with a density of 1 plant for every 4-9 ft<sup>2</sup> with a grasslike understory of 1 plant per 0.75 ft<sup>2</sup>. Preference would be given for sage grouse habitat needs where mule deer and sage grouse habitat overlap. Vegetation outside the 2 mile radius of leks

would be managed for near optimal mule deer habitat characteristics to include hiding cover which would consist of large shrubs and/or trees which offer the hiding capability over a minimum of 0.75 acres, thermal cover which would consist of saplings or shrubs at least 5 feet tall with 75% or more crown cover with a minimum size of 2-5 acres and 300 feet width, and fawning cover which would consist of low shrubs or small trees from 2-6 feet tall ranging from 70-100% understory vegetative cover, under a tree overstory of approximately 50% crown cover with a minimum size of 1-5 acres. The proportion of hiding cover: thermal cover: fawning cover would be approximately 20%: 15%: 5% with the remainder as forage area. Due to edaphic, slope, and aspect conditions, not all habitat within the management area can provide the above vegetative parameters. Those areas which have the capability, will be managed for the described vegetative condition. Specific vegetation characteristics for forage areas will be developed in activity plans but must be consistent with the goal of this DPC. Where possible, management will seek to maximize cover and vigor of bitterbrush.

#### **Desired Plant Community for the Red Fir Old Growth Community in the Coleville Management Area.**

Desired plant community for the red fir (*Abies magnifica*), white fir (*A. concolor*), Jeffrey (*P. jeffreyi*) and lodgepole pine (*P. murrayana*) which comprise the old growth timber stand: The goal of the DPC is to maximize habitat for those wildlife species associated with the old growth timber areas and to maintain or improve the current floral characteristics of individual old growth stands. Generally, this will require retaining the current mix of tree species, size/age composition, snag density, log density, and understory vegetation composition, species richness, and variety of age classes. Two or more tree species (e.g. red fir, white fir) must be present that provide a full range of tree sizes. Eight (8) or more large (>30 inch diameter) or old (>200 years old) red firs must be present per acre. Intermediate and small size classes may have red fir, white fir or Jeffrey pine as the predominant species for a stand. The canopy would be multilayered. Conifer snags number  $\geq 1 \frac{1}{2}$  snags per acre with dimensions > 20 inch diameter and > 15 feet tall. Logs are present at  $\geq 10$  tons per acre with 2 pieces per acre  $\geq 24$  inch diameter and > 50 feet long. Minimum stand size is 1 acre due to the intact nature vegetation types (piñon-juniper, aspen-shrub, aspen-willow) providing edge influence on the stands. An individual stand may have specific trees (< 100 years

old) cut and left in place if a high probability exists for improving habitat conditions for a wildlife species (e.g. pine marten) poorly represented in the old growth areas or for a wildlife guild.

#### **Desired Plant Community Description for the Section 22 Spring Complex and the Associated Wetlands in the Owens Lake Management Area (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the sub alpine zones.).**

Desired plant community description for the wetland vegetation type located at the Section 22 springs: A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant (non-invader) species on the site would be 80% or greater. At least 6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Native shrubs would be nonexistent in the site. Retain the natural vegetation complex in a late seral or potential natural community condition.

#### **Desired Plant Community Description for Springs and Associated Wetlands in the Owens Valley Management Area (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones.).**

Desired plant community description for springs/wetlands: A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant (non-invader) species on the site would be 80% or greater. At least 6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as black cottonwood (*P. trichocarpa*) or willow (*Salix* sp.) would occasionally border or be located within the site. Native shrubs would be nonexistent or found in trace amounts in the site. Restore or retain the natural vegetation complex in a late seral or potential natural community condition.



**Desired Plant Community Description for Springs and Associated Wetlands In the Benton Management Area (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the sub alpine zones.).**

Desired plant community description for springs/wetlands: A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. Foliar cover of all plant species on the site would be 80% or greater. At least 6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as black cottonwood (*Populus trichocarpa*) or willow (*Salix* sp.) would occasionally border the site. Native shrubs (e.g. big sagebrush *A. tridentata*, green rabbitbrush *Chrysothamnus viscidiflorus*) would be found at < 5% total plant composition in the site or be located on the capillary fringe of the wet area. Restore or retain the natural vegetation complex in a late seral or potential natural community condition. The desired plant community description applies to 100% of the site area.

**Desired Plant Community Description for Springs and Associated Wetlands In the Bodie Hills and Bridgeport Valley Management Areas (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the sub alpine zones.).**

Desired plant community description for wetland-meadow vegetation type: A site in which standing or flowing water or saturated soil would be present for a portion or all of the year. The site, typically, would be dominated by a dense growth of herbaceous monocots. The vegetation is composed mostly of species in the following genera: *Arnica*, *Carex*, *Eleocharis*, *Hesperochiron*, *Hordeum*, *Potentilla*, *Senecio*, *Ranunculus*, and other native herbaceous plants. Shrubs like big sagebrush (*A. tridentata*), bitterbrush (*P. tridentata*), green rabbitbrush (*C. viscidiflorus*) and others would be found in only trace amount in the site. Foliar cover of all plant species on the site would be 95% or greater. At least 4 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Trees such as aspen (*P. tremuloides*), black cottonwood (*P. trichocarpa*) or willow (*Salix* sp.) would occasionally border the site.

**Desired Plant Community Description for Springs and Associated Wetlands In the Granite Mountain and Long Valley Management Areas (Meadows in the Sierra Nevada region of California are wetland or semi wetlands supporting a cover of emergent hydrophytes and mesophytes and dry herbland of the subalpine zones.).**

Desired plant community description for wetland-meadow vegetation type: The goal of the DPC is maximize the habitat characteristics for sage grouse, a management indicator species. The site would be dominated by a dense growth of herbaceous monocots. Shrubs common to the Great Basin would be found in only trace amounts on the site. Foliar cover of all herbaceous species on the site would be 95% or greater. At least 4 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Willow (*Salix* sp.) would occasionally border the site. The desired plant community description applies to 100% of the plant community area in Granite Mountain and 50% of the plant community in Long Valley.

**Desired Plant Community for Aspen Groves In the Coleville, Bodie Hills, and Bridgeport Management Areas.**

Desired plant community for aspen (*Populus tremuloides*) groves: The goal of DPC is to maximize wildlife habitat diversity. Manage aspen stands at a mid-seral or higher ecological condition with emphasis on improving the aspen age-class structure. Insure a tree size composition of 13% = 12 inches or larger diameter at breast height (DBH), 37% = 10-12 inch DBH, and 50% < 10 inch DBH. Average 3 snag trees/acre with > 10 inch DBH and > 20 feet high. Retain an average of 3 uncharred class 1 or class 2 logs per acre with minimum size of 12 inches in diameter at the large end and at least 20 feet in length. Cover (the proportion of ground overshadowed by plants  $\leq$  5 feet in height) under the tree canopy would be maintained between 70-100%. The understory vegetative structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. The understory composition is rich, containing a large number (> 14) of species. A variety of age classes in the understory vegetation would be represented.

**Desired Plant Community for Riparian Vegetation at Springs In the South Inyo Management Area.**

Desired plant community for riparian vegetation at springs: The goal of the DPC is to maximize forage volume and the diversity of microclimatic features in the site. Ninety percent of the riparian vegetation

would be composed of very wet soil adapted plants in vigorous condition. Reproduction of hydrophytes would be evident and proceeding at a rate in the under and overstory to insure maintaining current stand size. Vegetative cover in the site would be 60% or greater. The understory vegetation structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. A variety of vegetation species and age classes would be represented.

**Desired Plant Community for Riparian Vegetation Along Streams in the Coleville, Bodie Hills, Bridgeport Valley, Granite Mountain, Long Valley, Benton, Owens Valley, and Owens Lake Management Areas.**

Desired plant community for riparian vegetation along streams: The goal of the DPC is to maximize forage volume and the diversity of microclimatic features in the riparian site. Additional goals are retention or improvement of stream bank stability and bank morphology. Ninety percent of the site would be composed of very wet soil adapted plants in vigorous condition or by boulders and rubble which do not allow bank erosion. Vegetation overhang within 12 inches of water surface would average 5 inches. Reproduction of hydrophytes would be evident. Upland plants (shrubs) are limited largely to the riparian-upland ecotone or at the stream capillary fringe. Trees (including conifers) shrubs, sedges, rushes, and grass, combined, would cover more than 90% of the stream bank away from boulders and rubble. A minimum of 70% of the stream (water column) would be shaded by vegetation. Riparian vegetation growth is vigorous for woody plants and at least 6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later. Reproduction of species in both the under and overstory would proceed at a rate to insure continued ground/bank cover. The understory vegetation structure would be highly varied, containing at least 4 levels with many types of stem and branch structure. A variety of vegetation species and age classes are represented.

**NOTE:** In the Benton Management Area, Montgomery Creek will not be included under a DPC description due to the stream gradient, its propensity for flash flooding and the inability to control the natural erosion within the stream channel in an economical manner. Morris Creek is also eliminated from DPC guidelines since much of the water which historically ran in the natural stream channel is now diverted into Nevada, and the remaining water (< 0.5 cfs) is now flowing in a manmade channel.

**Desired Plant Community for Pinyon-Juniper in Coleville, Bodie Hills, Granite Mountain, and South Inyo Management Areas.**

Desired plant community description for the pinyon (*Pinus monophylla*) - juniper (*Juniperus* sp.) vegetation type: The goal of the DPC is to maximize wildlife habitat diversity with an emphasis on mule deer habitat improvement. Dense stands of pinyon or pinyon and juniper which have < 25% understory vegetative cover, a tree crown cover > 20% and an overall stocking rate > 75 trees per acre would receive priority treatment for habitat improvement. The desired stocking rate would be 20 to 40 trees per acre containing an uneven aged mix of trees where at least 40% of stand composition would consist of seed trees (> 100 years old). A minimum of one-half of all felled trees would be left in place. Insure an average of 1 snag tree per acre (1 snag tree per 3 acres in South Inyo Management Area) with minimum dimensions of 10 inches DBH and 15 feet in height. Retain in place an average of 2 uncharred class 1 or class 2 logs per acre with minimum dimensions of 12 inch diameter at the large end and 15 feet in length. Class 3, 4 or 5 logs would not be disturbed or burned. Limb slash would be left in place or piled on tree stumps or in the interspaces where little to no shrub or tree production occurs. Invasion of annual cheatgrass (*Bromus* sp.) or other exotic weeds should not occur after stand alteration.



## **Appendix 2**

### **Wild and Scenic River Component Eligibility Determinations**

The following tables portray noneligibility (Table 1) and eligibility (Table 2) determinations for potential additions to the Wild and Scenic River System. These determinations comply with the Wild and Scenic Rivers Act of October 2, 1968 (P.L. 90-542) and Bureau planning policy. River segments determined eligible are classified as wild, scenic or recreational and will be studied for their suitability as components of the Wild and Scenic River System after the RMP/EIS Record of Decision. A river segment was determined eligible if, 1) it is free-flowing and 2) it contains an outstandingly remarkable resource value when considered on its own merits or in a state, regional or national context.

Within two years of the RMP/EIS Record of Decision, the Bureau, other interested land use agencies and private landowners will commence studies to make suitability or nonsuitability determinations for eligible river segments in the Bishop Resource area.

In many cases, river segments adjacent to the Bureau's eligible segments are managed or owned by other land use agencies or private landowners. In the event that no interest is expressed by these parties to study their portions of river segments adjacent to Bureau administered eligible sections, the Bureau would assess the manageability of its creeks to determine if it could reasonably protect the river segment and its values. If determined **not** manageable, the segment would be removed from further study. If the segment is determined manageable, the Bureau would proceed with a comprehensive study of the segment.



Table 1. Noneligible River Segments

Eligibility Assessment for River Segments Identified  
for Possible Inclusion as Components of the National  
Wild and Scenic Rivers System

Management Area	River Segment	Reason for Consideration <sup>1</sup>	Length on BLM Land (Miles)	Eligibility Criteria		
				Free-Flowing	Outstandingly Remarkable Values <sup>2</sup>	Eligibility Determination
Coleville	California Creek	C	1	Yes	A	Noneligible
	Lost Cannon Creek	C	0.75	No	A	Noneligible
	Mill Creek	C	1.25	Yes	A	Noneligible
	Nevada Creek	C	0.25	Yes	A	Noneligible
	Slinkard Creek	C	1	Yes	A	Noneligible
	Slinkard Creek Tributary #1	C	1.5	Yes	A	Noneligible
	Unnamed Creek/Golden Gate Mine Road	C	0.75	No	A	Noneligible
	Little Lost Canyon	C	0.75	No	A	Noneligible
Bridgeport Valley	Bridgeport Reservoir	C	5	No	A	Noneligible
	Dunderberg Creek	C	0.6	No	A	Noneligible
Owens Valley	Baker Creek	C	0.125	Yes	A	Noneligible
	Rawson Creek	C	1.1	Yes	A	Noneligible
	Bishop Creek	C	0.25	No	A	Noneligible
	Birch Creek	C	1.2	Yes	A	Noneligible
	McGee Creek	C	1.5	Yes	A	Noneligible
	Horton Creek	C, D	2.0	Yes	A	Noneligible
	Pine Creek	C, D	2.1	Yes	A	Noneligible
	Carroll Creek	C	1.0	Yes	A	Noneligible
	S. Fork Lubkin Creek	C	1.5	Yes	A	Noneligible
	N. Fork Lubkin Creek	C	1.7	Yes	A	Noneligible
	Unnamed Creeks north of Lubkin Creek	C	1.4	Yes	A	Noneligible
	Tuttle Creek	C	3.5	Yes	A	Noneligible
	Lone Pine Creek	C	3.5	Yes	A	Noneligible
	Hogback Creek	C	3.0	Yes	A	Noneligible
	S. Fork Bairs Creek	C	2	Yes	A	Noneligible
	N. Fork Bairs Creek	C	3.5	Yes	A	Noneligible
	Shepherd Creek	C	4.75	Yes	A	Noneligible
	Symmes Creek	C	2.50	Yes	A	Noneligible
	Thibaut Creek	C	1.50	Yes	A	Noneligible
	Sawmill Creek	C	0.50	Yes	A	Noneligible
	Goodale Creek	C	1.75	Yes	A	Noneligible
	Taobose Creek	C	1.0	Yes	A	Noneligible
	Tinamaha Creek	C	300 feet	Yes	A	Noneligible
	Birch Creek	C	2.75	Yes	A	Noneligible
	Big Pine Creek	C	0.50	Yes	A	Noneligible
South Inyo	Unnamed Creek Above Sidecanyon Spring	C	3	Yes	A	Noneligible
Owens Lake	Ash Creek	C	0.5	Yes	A	Noneligible
	Braley Creek	C	0.5	Yes	A	Noneligible
	Cartago Creek	C	0.125	Yes	A	Noneligible
	Cottonwood Creek	C	0.25	Yes	A	Noneligible

Table 1. Noneligible River Segments (continued)

Eligibility Assessment for River Segments Identified  
for Possible Inclusion as Components of the National  
Wild and Scenic Rivers System

Management Area	River Segment	Reason for Consideration <sup>1</sup>	Length on BLM Land (Miles)	Eligibility Criteria		
				Free-Flowing	Outstandingly Remarkable Values <sup>2</sup>	Eligibility Determination
Granite Mountain	Adobe Creek	C	2.05	Yes	A	Noneligible
	Wilson Creek	C	0.95	Yes	A	Noneligible
	Black Lake	C	0.50	Yes	A	Noneligible
Benton	Marble Creek	C	3.4	Yes	A	Noneligible
	Montgomery Creek	C	2.5	Yes	A	Noneligible
	Birch Creek	C	1.5	No	A	Noneligible
	Coldwater Creek	C	0.5	Yes	A	Noneligible
	Silver Creek	C	0.75	Yes	A	Noneligible
	Morris Creek	C	1.1	No	A	Noneligible
	Pellisier Creek	C	0.33	Yes	A	Noneligible
	Milner Creek	C	0.25	No	A	Noneligible
Long Valley	Little Hot Creek	C	0.75	Yes	A	Noneligible
Bodie Hills	McMillan Spring/Creek	C	0.66	Yes	A	Noneligible
	Unnamed Creek to Dry Lake	C	0.33	Yes	A	Noneligible
	Unnamed Creek to Clearwater Creek (Warm Springs Canyon)	C	0.50	Yes	A	Noneligible
	Unnamed Creek to Bodie Creek	C	0.75	Yes	A	Noneligible
	Unnamed Tributary to Aurora Canyon Creek	C	1.33	Yes	A	Noneligible
	Rattlesnake Gulch	C	1	Yes	A	Noneligible
	Little Mormon Meadow Creek	C	2	Yes	A	Noneligible
	Hot Springs Canyon	C	1.25	Yes	A	Noneligible
	Cottonwood Canyon	C	4	Yes	A	Noneligible
	West Fork and Tributaries of Cottonwood Creek	C	4	Yes	A	Noneligible
	Clearwater Creek	C	2	Yes	A	Noneligible
	Clark Canyon	C	3	Yes	A	Noneligible
	Bridgeport Canyon	C	1.5	Yes	A	Noneligible
	Bodie Creek	C	1.75	Yes	A	Noneligible
	Aurora Creek	C	3.5	Yes	A	Noneligible
	Rough Creek - Tributary #1	C	0.5	Yes	A	Noneligible
	Rough Creek - Tributary #2	C	2.75	Yes	A	Noneligible
	Rough Creek - Tributary #3	C	1.7	Yes	A	Noneligible

<sup>1</sup> A - Nationwide Rivers Inventory  
B - 1988 Outstanding Rivers List - American Rivers, Inc.  
C - Potential Rivers Inventory - Bishop R.A.  
D - Other

<sup>2</sup> A - Non-existent  
B - Scenic  
C - Recreational  
D - Geological  
E - Fish and Wildlife  
F - Historical  
G - Cultural  
H - Other (Including Ecological)

**Table 2. Eligible River Segments**  
**Section A**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Reason for Consideration <sup>1</sup>	Length on BLM Land (Miles)	Eligibility Criteria		Potential Classification	Acreage <sup>2</sup>
				Free-Flowing	Outstandingly Remarkable Values <sup>3</sup>		
Coleville	West Walker River	B, C, D	0	Designated suitable by State of California. Bureau manages approximately 760 acres in the river corridor above the river shoreline. Further eligibility determination will not be done.			
Bridgeport Valley	Virginia Creek	C, D	7	Upper 1.25 miles and lower 1 mile	B, C, E, F, H	Recreational	720
	Green Creek	C	0.75	Yes	E	Recreational	240
	Dog Creek	C	3	Yes	E, F	Recreational	960
Bodie Hills	Rough Creek	C	2.1	Yes	E	Wild Scenic/ Recreational	672
	Atastra Creek	C	1.75	Yes	E		560
Benton	Fish Slough	C, D	2.0	Yes	E, G, H	Recreational	640
Long Valley	Hot Creek	B, C, D	1	Yes	D, E, H	Recreational	320
Owens Valley	Rock Creek	C, D	1.5	Yes	C, D, H	Recreational	480
	George Creek	C	3.75	Yes	E, H	Recreational	1200
	Independence Creek	C	2.50	Yes	C, E, H	Recreational	800

<sup>1</sup> A - Nationwide Rivers Inventory  
B - 1988 Outstanding Rivers List - American Rivers, Inc.  
C - Potential Rivers Inventory - Bishop R.A.  
D - Other

<sup>2</sup> Shoreline and adjacent lands within 1/4 mile of the river segment not to exceed 320 acres per mile measured from the ordinary high water mark on both sides of the river.

<sup>3</sup> A - Non-existent  
B - Scenic  
C - Recreational  
D - Geological  
E - Fish and Wildlife  
F - Historical  
G - Cultural  
H - Other (Including Ecological)

**Table 2. Eligible River Segments (continued)**  
**Section B**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Segment Description	Description of Outstanding Values	Other Comments
Bridgeport Valley	Virginia Creek	From Toiyabe National Forest boundary in Sec. 34, T.3N., R.25E., M.D.M. to Conway Ranch diversion. (Upper 1.25 miles.) From confluence of Dog and Virginia Creeks to Sec. 27, T.4N., R.25 E., M.D.M. (Lower 1 mile.)	<p>Area very scenic. During fall it compels motorists to stop and photograph the view. Area prescribed as Scenic ACEC (VRM - Class I) in RMP.</p> <p>Attracts visitors from outside area for fishing and camping.</p> <p>The segment has an excellent naturally reproducing population of brown trout which attracts recreational use throughout the stream area.</p> <p>The segment offers an exceptional opportunity for interpretation of outstanding quality vegetation types along the stream, sightseeing of an area rich in color and aesthetic appeal.</p> <p>The segment contributes significantly to the area's biological diversity through representation of plant and animal species associated with upland terrestrial, riparian and aquatic habitats.</p> <p>First mining settlement (Dog Town) in eastern Sierra of consequential value - 1857. Existing mining shelters still apparent as well as tailings from historic mining activity. Portions of creek withdrawn from mineral entry to protect historic values.</p>	<p>Existing diversion for Conway Ranch dries up lower 4.75 miles of creek on occasion. This portion determined to not qualify as free-flowing.</p> <p>Determine interest of private landowners and Toiyabe National Forest to conduct joint studies on adjacent portions of creek.</p> <p>Interest expressed by Friends of the River to assess eligibility.</p>
	Green Creek	From Sec. 33, T.4N., R.25E., M.D.M. to Sec. 28, T.4N., R.25E., M.D.M. (Excludes 40 acres of private land along creek.)	<p>The stream delivers the majority of the water for the east fork of the Walker River.</p> <p>This segment has an excellent, naturally reproducing population of brown trout which produces high quality recreational opportunities.</p> <p>The segment contributes significantly to the area's biological diversity through representation of plant and animal species associated with terrestrial, riparian and aquatic habitats. The segment also provides habitat for two State of California rare species, the Wolverine and Sierra Nevada red fox (also Cat. 2 species under USFWS listing).</p>	<p>Right-of-way (valid existing right) exists on creek to divert water for hydroelectric power generation. Implementation of project expected in summer 1990.</p>



**Table 2. Eligible River Segments (continued)**  
**Section B**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Segment Description	Description of Outstanding Values	Other Comments
Bridgeport Valley (continued)	Dog Creek	From Sec. 15, T.3N., R.25E., M.D.M. to Virginia Creek in Sec. 35, T.4N., R.25E., M.D.M.	First mining settlement (Dog Town) in eastern Sierra of consequential value - 1857. Stimulated settlement in other locations. Historic mining shelters still apparent as well as tailings from historic mining activity.	Determine interest of landowners (Toiyabe National Forest, et. al.) to conduct joint studies on adjacent portions of creek.
			The segment has an excellent, naturally reproducing population of brown trout which attracts recreation use through the lower and upper reaches of the stream.	
			The segment contributes significantly to the area's biological diversity through representation of plant and animal species associated with upland terrestrial, riparian and aquatic habitats.	
Bodie Hills	Rough Creek	From Sec. 31, T.5N., R.27E., M.D.M. to Sec. 9, T.5N., R.27E., M.D.M. (Excludes private land along creek).	The segment has high capability for supporting an exceptional quality Lahontan cutthroat trout (listed species - threatened status) population. The segment currently contains a high quality population of wild rainbow trout.	Determine interest of adjoining landowners (Toiyabe National Forest, Flying M Ranch) to conduct joint studies of adjacent creek segments. Portions of creek on private land contain high scenic values.
			The segment contributes significantly to the area's biological diversity through the representation of plant and animal species associated with upland terrestrial, riparian and aquatic habitats.	
	Atastra Creek	From aspen grove in Sec. 32, T.5N., R.27E., M.D.M. to Sec. 20, T.5N., R.27E., M.D.M. (Excludes private land along creek).	The segment has high capability for supporting an excellent quality Lahontan cutthroat trout (listed species - threatened status) population.	Determine interest of adjoining landowners to conduct joint studies of adjacent creek segments.
			The segment currently contains a high quality population of wild rainbow trout in the stream reach nearest the confluence with Rough Creek.	Portion above Hilton Spring classified as scenic; portion below as recreational.
			The segment contributes significantly to the area's biological diversity through representation of plant, and animal species associated with upland terrestrial, riparian and aquatic habitats.	

**Table 2. Eligible River Segments**  
**Section B**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Segment Description	Description of Outstanding Values	Other Comments
Benton	Fish Slough	The main slough channel in Sec. 31, T.5S., R.33E., M.D.M., main slough channel in SW1/4 Sec. 6, T.6S., R.33E., M.D.M., and main slough channel in SW1/4NW1/4 Sec. 7, T.6S., R.33E., M.D.M. The NW1/4 SW1/4 Sec. 7, T.6S., R.33E., M.D.M. and NE1/4 SE1/4, Sec. 12, T.6S., R.32E., M.D.M.	High cultural values associated with the marshland environment.  Area contains sensitive plants and animals - Owens pupfish, Owens tui chub, Fish Slough milkvetch, etc.  An excellent representative of a good quality marshland ecosystem in the Great Basin.	Majority of wetland administered by City of Los Angeles; entire area presently designated as ACEC. 4 miles of main channel on DWP. 2 miles on BLM. BLM controls 33% or less of total shoreline.  Determine interest of Los Angeles Dept. of Water and Power to conduct joint studies on adjacent non-Bureau segments.  Friends of the River has expressed interest to assess eligibility of the area.
Long Valley	Hot Creek	From Inyo National Forest boundary in Sec. 30, T.3S., R.29E., M.D.M. to private land in Sec. 19, T.3S., R.29E., M.D.M.	Good example of surface thermal flow and thermal features in the eastern Sierra. More thermal flow out of Hot Creek Springs than all of Long Valley combined.  The segment has an excellent naturally reproducing brown trout population which offers quality recreational opp-ortunities in the lower stream area.  The segment produces the greatest average annual discharge (approx. 120 c.f.s.) of all streams in the south Lahontan region.  The segment has exceptionally high value as a riparian area while offer-ing a diversity of other streamside habitats from vertical canyon walls providing habitat for a large number of cliff dwelling species to waterfowl and shore-birds occupying the adjacent meadows.  A 3.5 mile section immediately up-stream of the segment is designated as an official State of California Wild Trout stream and major brown trout fishery.	Adjoining Inyo National Forest portion designated as eligible and identified as a candidate geological special interest area.  Recommended by Cal. Dept. of Fish & Game on the 1988 Out-Standing Rivers List.  Interest expressed by Friends of River to assess eligibility.  Diversion and water gauging device located on lower portion of creek.

**Table 2. Eligible River Segments (continued)**  
**Section B**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Segment Description	Description of Outstanding Values	Other Comments
Owens Valley	Rock Creek	From Inyo National Forest boundary in Sec. 20, T.5S., R.30E., M.D.M. to private land at Sec. 29, T.5S., R.30E., M.D.M.	<p>The entire stream component on Bureau land has excellent aquatic and riparian habitat quality.</p> <p>The dense and excellent quality riparian vegetation is scenically enhanced and biologically diversified by large, old growth Jeffrey pine trees scattered along the edge of both stream banks throughout the reach.</p> <p>The watershed and stream shore are excellent examples of primitive (natural) conditions which are rare in the Owens Valley region.</p> <p>The stream is composed, throughout most of the reach, of a series of cascades which set it apart in channel morphology from 95% of eastern Sierra streams.</p> <p>The stream attracts out-of-area mountain bikers and fishermen.</p> <p>Good example of geological stream erosion in volcanic bedrock.</p>	<p>Adjoining USFS portion of creek determined eligible and classified as recreational.</p> <p>Seek interest of private landowner to conduct joint studies on adjacent portions of creek.</p> <p>Interest expressed by Friends of the River to assess eligibility.</p>
	George Creek	From Inyo National Forest boundary in Sec. 6, T.15S., R.35E., M.D.M. to City of Los Angeles land in Sec. 27, T.14S., R.35E., M.D.M.	<p>The stream reach has a good population of wild brown trout and excellent fish habitat quality throughout.</p> <p>The contrast of seasonal variation of riparian vegetation color with the drab brown to dark green adjacent shrublands highlights the excellent riparian quality.</p> <p>The watershed and stream shore are excellent examples of completely primitive (natural) conditions which are rare in the Owens Valley region. The segment and immediate watershed have not been impacted by man's activities.</p> <p>The excellent quality of riparian habitat provides the core use area for the Mt. Whitney tule elk herd and a component of the Goodale mule deer herd.</p>	<p>Seek interest of adjoining land use agencies to conduct joint studies of adjacent creek segments.</p>

**Table 2. Eligible River Segments (continued)**  
**Section B**

**Eligibility Assessment For River Segments Identified  
For Possible Inclusion as Components of the National  
Wild and Scenic Rivers System**

Management Area	River Segment	Segment Description	Description of Outstanding Values	Other Comments
Owens Valley (continued)	George Creek (continued)		The stream is composed of a series of cascades which set it apart in channel morphology from 95% of eastern Sierra streams. The segment contributes significantly to the area's biological diversity through representation of plant and animal species associated with terrestrial, riparian and aquatic habitat.	
	Independence Creek	From Inyo National Forest boundary in Sec. 26, T.13S., R.35E., M.D.M., to City of Los Angeles land in Sec. 19, T.13S., R.35E., M.D.M.	<p>The stream reach has a substantially naturally reproducing wild brown trout population and excellent fish habitat quality throughout.</p> <p>The excellent quality riparian vegetation is scenically enhanced by large, old growth Jeffrey pine trees immediately bordering both stream banks in the upper 1.5 miles of the reach.</p> <p>The watershed and 99% of the stream shore are excellent examples of primitive (natural) conditions which are rare in the Owens Valley region.</p> <p>The creek attracts some out-of-area use.</p>	Seek interest of adjoining land use agencies to conduct joint studies of adjacent creek segments.





## Appendix 3

### Interim Management Guidelines for Study Rivers

Once a river segment or waterway is determined eligible and classified as wild, scenic or recreational, it must be afforded adequate interim protection until the study process is complete and a suitability or nonsuitability decision is made. In general, management prescriptions for river corridors identified for study should provide protection in the following ways:

1. **Free-flowing Values.** The free-flowing characteristics of such identified river segments cannot be modified to allow stream impoundments, diversions, channelization, and/or rip-rapping (to the extent the BLM is authorized under law to prohibit such actions).
2. **River Values.** Outstandingly remarkable values of the identified river segment or area must be protected (subject to valid existing rights) and, to the extent practicable, enhanced.

3. **Classification Impacts.** Management and development of the identified river and its corridor cannot be modified, subject to valid existing rights, to the degree that its eligibility or classification would be affected (i.e., its classification cannot be changed from wild to scenic, or scenic to recreational).

The following table provides a description of classification criteria to determine whether a study river is wild, scenic or recreational. Then under each classification, it identifies specific guidelines for interim management of study rivers until a suitability or nonsuitability decision is made. Rivers recommended as suitable must be ultimately designated by Congress in order to be added to the Wild and Scenic River system.

**Table 1. Guidelines for Interim Management of Study Rivers on Bureau of Land Management Lands in the Bishop Resource Area**

*General Guidance*

The Wild and Scenic Rivers Act provides some guidance as to how study rivers would be managed until designated suitable by Congress or released to multiple use. It states, "Each component of the National Wild and Scenic Rivers System shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeological, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, on the special attributes of the area." Sec. 10(a) PL. 90-542 Wild & Scenic Rivers Act.

	Wild River Classification	Scenic River Classification	Recreational River Classification
<b>Classification Description</b>	Wild river areas are defined by the Act to include "Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America." Management of wild river areas should give primary emphasis to protecting the values which make it outstandingly remarkable while providing river related outdoor recreation opportunities in a primitive setting.	Scenic river areas are defined by the Act to be "Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads." Management of scenic river areas should maintain and provide outdoor recreation opportunities in a near-natural setting. The basic distinctions between a "wild" and "scenic" river area are the degree of development, types of land use, and road accessibility. In general, a wide range of agricultural, water management, silvicultural and other practices could be compatible with scenic river values, providing such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment.	Recreational river areas are defined by the Act to be "Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past." Management of recreational river areas should be designed to protect and enhance existing recreational values. The primary objective will be to provide opportunities for the public to participate in recreation activities dependent on or enhanced by the largely free-flowing nature of the river.

Table 1. (continued)

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
<b>Forestry Practices</b>	Cutting of trees will not be permitted except when needed in association with a primitive recreation experience (such as clearing for trails and for visitor safety) or to protect the environment (such as control of fire). Timber outside the boundary but within the visual corridors will be managed and harvested in a manner to provide special emphasis on visual quality.	Forestry practices including timber harvesting could be allowed provided that such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment. The river area should be maintained in its near natural environment. Timber outside the boundary but within the visual area should be managed and harvested in a manner which provides special emphasis on visual quality.	Forestry practices including timber harvesting would be allowed under standard restrictions to protect the river environment and its associated values.
<b>Agricultural Practices and Livestock Grazing</b>	Agricultural use is restricted to a limited amount of domestic livestock grazing and hay production to the extent currently practiced. Row crops are prohibited.	A wider range of agricultural and live-stock grazing uses is permitted to the extent currently practiced. Row crops are not considered as an intrusion on the "largely primitive" nature of scenic corridors as long as there is not a substantial adverse effect on the natural-like appearance of the river area.	Lands may be managed for a full range of agricultural and livestock grazing use to the extent currently practiced. Recreation:
<b>1. Facilities</b>	Major public-use areas, such as large campgrounds, interpretive centers or administrative headquarters are located outside the wild river area. Simple comfort and convenience facilities, such as toilets, tables, fireplaces, shelters or refuse containers may be provided as necessary within the river area. These should harmonize with the surroundings. Unobtrusive hiking and horseback riding trail bridges could be allowed on tributaries, but would not normally cross the designated river.	Larger scale public use facilities such as moderate size campgrounds, interpretive centers, and administrative headquarters are allowed if such structures are screened from the river. Modest and unobtrusive marinas also can be allowed.	Interpretive centers, administrative head-quarters, campgrounds, and picnic areas may be established in close proximity to the river. However, recreational classification does not require extensive recreation development.



**Table 1. (continued)**

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
2. Public use and access	Recreation use including but not limited to hiking, fishing, hunting, and boating is encouraged in river areas to the extent consistent with the protection of the river environment and outstandingly remarkable values. Public use and access may be regulated and distributed where necessary to protect and enhance river values.	This is the same as for wild river classification.	This is the same as for wild river classification.
3. Motorized travel	Motorized travel on land or water could be permitted, but is generally not compatible with this classification. Normally, motorized use will be prohibited in a wild river area. Prescriptions for management of motorized use may allow for search and rescue and other emergency situations.	Motorized travel on land or water may be permitted, prohibited, or restricted to protect the river values. Prescriptions for management of motorized use may allow for search and rescue and other emergency situations.	Motorized travel on land will generally be permitted on existing roads. Controls will usually be similar to that of surrounding lands. Motorized travel on water will be in accordance with existing regulations or restrictions.
Rights-of-Way, Utilities	New transmission lines, natural gas lines, water lines, etc., are discouraged unless specifically prohibited outright by other plans, orders, or laws. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are unavailable, locations and construction techniques will be selected to minimize adverse effects on river area related values and fully evaluated during the site selection process.	This is the same as for wild river classification.	This is the same as for wild river classification.

Table 1. (continued)

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
<b>Road and Trail Construction</b>	No new roads or other provisions for overland motorized travel would be permitted within a narrow incised river valley, or if the river valley is broad, within 1/4 mile of the river band. A few inconspicuous roads leading to the boundary of the river area and unobtrusive trail bridges may be permitted. New trails may be constructed provided that they do not detract from the essentially primitive character of the area.	Roads may occasionally bridge the river area, and short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or screened railroads could be allowed. Maintenance of existing roads and any new roads will be based on the type of use for which the roads are constructed and the type of use that will occur in the river area. New trails may be constructed to enhance the values for which the river was designated.	Parallel roads or railroads could be constructed on one or both river banks. There can be several bridge crossings and numerous river access points. New trails may be constructed as long as there is no conflict with other river values.
<b>Minerals</b>	New mining claims and mineral leases are prohibited within 1/4 mile of the river. Valid existing claims would not be abrogated and, subject to existing regulations (e.g., 36 CFR 228 and 43 CFR 3809) that the Secretaries of Agriculture and Interior may prescribe to protect the rivers included in the National System, existing mining activity would be allowed to continue. All mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment. Reasonable mining claim and mineral lease access will be permitted. Mining claims beyond 1/4 mile of the river, but within the wild river area boundary, and perfected after the effective date of the wild river designation can be patented only as to the mineral estate and not the surface estate.	Subject to existing regulations (e.g., 36 CFR 228 and 43 CFR 3809) and any future regulations that the Secretaries of Agriculture and Interior may prescribe to protect the values of rivers included in the National System, new mining claims and mineral leases could be allowed and existing operations allowed to continue. All mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment. Reasonable mining claim and mineral lease access will be permitted. Mining claims perfected after the effective date of the scenic river designation can be patented only as to the mineral estate and not the surface estate.	Subject to existing regulations (e.g., 36 CFR 228 and 43 CFR 3809) and any future regulations that the Secretaries of Agriculture and Interior may prescribe to protect the values of rivers included in the National System, new mining claims and mineral leases could be allowed and existing operations allowed to continue. All mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment. Reasonable mining claim and mineral lease access will be permitted. Mining claims perfected after the effective date of the recreation river designation can be patented only as to the mineral estate and not the surface estate.

Table 1. (continued)

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
<b>Water:</b>	Water quality will be maintained or improved to meet Federal criteria or Federally approved state standards. River management plans shall prescribe a process for monitoring water quality on a continuing basis.	This is the same as for wild river classification.	This is the same as for wild river classification.
1. Quality			
2. Water Supply	Water supply dams and major diversions are prohibited.	Water supply dams and major diversions are prohibited. Maintenance of existing facilities and construction of some minor new diversion structures would be permitted provided that the area remains natural in appearance and the practices or structures harmonize with the surrounding environment.	New major water structures are prohibited. Existing low dams, diversion works, rip rap and other minor structures may be maintained provided the waterway remains generally natural in appearance. New minor diversion structures or management practices, e.g., water bars, diversion ditches, etc. may be allowed provided that the area remains generally natural in appearance and the structures harmonize with the surrounding environment.
3. Flood Control	No new flood control dams, levees, or other works are allowed in the channel or river corridor. The natural appearance and essentially primitive character of the river must be maintained.	Flood control dams and levees are prohibited. Existing structures protecting major improvements, homes, bridges, highways, etc., may be maintained.	Existing flood control and protection works may be maintained. New structures to provide bank stabilization such as rock or log placement, must not affect free-flowing characteristics nor conflict with outstandingly remarkable values. In addition, new structures must be compatible with the classification and the area must remain natural in appearance with structures harmonizing with the environment.
4. Hydro-electric Power	No development of hydroelectric power facilities would be permitted.	This is the same as for wild river classification.	This is the same as for wild river classification.

Table 1. (continued)

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
5. Ground Water	Federal agency groundwater development for range, wildlife, recreation, or administrative facilities may be permitted if there are no adverse effects on outstandingly remarkable values.	This is the same as for wild river classification.	This is the same as for wild river classification.
Protection: 1. Fire Protection and Suppression	Management and suppression of fires within a designated river area will be carried out in a manner compatible with contiguous Federal lands. On wildfires, methods will be utilized that minimize suppression activities that cause long term impacts on the river and river area. Presuppression and prevention activities will be conducted in a manner which reflects management objectives for the specific river segment. Prescribed fire may be utilized to maintain or restore ecological condition or to meet objectives specified in the river management plan.	This is the same as for wild river classification.	This is the same as for wild river classification.
2. Insects, Disease, & Noxious Weeds	The control of forest and rangeland pests, diseases and noxious weed infestations will be carried out in a manner compatible with the intent of the Act and management objectives of contiguous Federal lands.	This is the same as for wild river classification.	This is the same as for wild river classification.
Cultural Resources	Historic and prehistoric resource sites will be identified, evaluated, and protected in a manner compatible with the management objectives of the river and in accordance with applicable regulations and policies. Where appropriate, historic or prehistoric sites will be stabilized, enhanced, and interpreted.	This is the same as for wild river classification.	This is the same as for wild river classification.



**Table 1. Guidelines for Interim Management of Study Rivers on Bureau of Land Management Lands in the Bishop Resource Area (continued)**

Land Use Activities	Wild River Classification	Scenic River Classification	Recreational River Classification
<b>Fish and Wildlife Habitat Improvement</b>	The construction and maintenance of minor structures for protection, conservation, rehabilitation, or enhancement of fish and wildlife habitat are acceptable in wild river areas provided they do not affect the free-flowing characteristics of the river, nor conflict with outstandingly remarkable values. In addition, structures and practices should be compatible with the classification, assure the area remains natural in appearance, and harmonize with the surrounding environment.	This is the same as for wild river classification.	This is the same as for wild river classification.
<b>Wilderness &amp; Wilderness Study Areas</b>	Management of river areas which overlap designated wilderness or wilderness study areas will meet whichever standard is highest. If an area is released from wilderness study area status and the associated interim management policy, the applicable river classification guidelines and standards would then apply.	This is the same as for wild river classification.	This is the same as for wild river classification.
<b>Visual Resources</b>	Preservation of existing landscape character through natural ecological change is the objective. Limited management activities are not precluded, provided any change to the characteristic landscape is low and does not attract attention.	Retention of the existing landscape character is the objective. Management activities can occur, provided the change to the characteristic landscape is low and does not attract the attention of the casual observer.	Partial retention of the existing landscape character is the objective. Management activities can occur, provided the change to the characteristic landscape is no more than moderate and does not dominate the view of the casual observer.

## Appendix 4

### Visual Resource Management Class Objective Descriptions

**Class I Objective.** The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

**Class II Objective.** The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen from key observation points, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

**Class III Objective.** The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention from key observation points but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

**Class IV Objective.** The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view of the key observation points and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.



## Appendix 5

### Current Livestock Grazing Allocations and Seasons of Use

Management Area	Allotment Name and Number	AUMs	Category	Kind of Livestock	Public Land Acres	Season of Use
Coleville	Topaz (3601)	25	C	Cattle/Sheep	200	5/1-10/31
	Dry Canyon (6063)	78	C	Cattle	893	5/15-10/31
	Koenig Ranch (6064)	5	C	Cattle/Horses	548	5/1-10/31
	Aristo Ranch (6065)	112	C	Cattle	651	5/1-10/31
	Slinkard Valley (6066)	170	I	Cattle/Sheep	7,923	5/15-10/31
	Sarman Ranch (6068)	<u>27</u>	C	Cattle/Sheep/Horses	<u>445</u>	5/1-10/31
		417			10,660	
Bridgeport Valley	West Reservoir (6056)	70	C	Cattle	753	6/16-09/30
	Dog Creek (6058)	991	I	Sheep	5,340	6/1-10/31
	Green Creek (6076)	550	I	Sheep	3,838	6/1-10/31
	Walter's Ranch (6078)	<u>54</u>	C	Sheep	<u>516</u>	5/1-06/30
		1,665			10,447	
Bodie Hills	Copper Mountain (6057)	324	M	Sheep	2,448	6/16-10/31
	Rancheria Gulch (6059)	1,600	M	Sheep	21,514	6/1-10/31
	Travertine Hills (6062)	740	I	Cattle/Sheep	8,947	5/17-10/31
	Little Mormon (6070)	1,230	I	Sheep	8,616	6/1-10/31
	Bodie Mountain (6071)	5,647	I	Cattle	46,547	6/1-10/15
	Potatoe Peak (6073)	1,086	I	Cattle	13,528	6/1-10/31
	Mormon Ranch (6074)	329	M	Sheep	3,358	7/27-10/15
	Aurora Canyon (6083)	1,736	I	Cattle	17,832	6/15-10/30
	Mt. Biedeman (6084)	<u>480</u>	I	Sheep	<u>4,859</u>	6/1-10/31
		13,172			127,649	
Granite Mountain	Frazier Canyon (6003)	223	C	Cattle/Sheep	7,564	7/15-11/15
	Mathieu (6026)	50	C	Cattle	1,950	6/1-10/31
	Adobe Valley (6027)	1,399	I	Cattle	24,043	6/15-11/15
	Black Lake (6028)	41	C	Cattle	885	6/1-10/31
	Granite Mountain (6034)	594	M	Cattle/Sheep	20,608	7/1-10/15
	Adobe Lake (6036)	100	C	Sheep	1,804	6/1-10/31
	Symons (6037)	116	C	Sheep	3,134	6/1-10/31
	Mono Lake (6054)	537	M	Sheep	8,536	7/1-10/15
	Mono Mills (6055)	2,142	M	Sheep	35,932	7/1-10/15
	Mono Settlement (6061)	112	M	Sheep	758	6/1-10/31
	Mono Sand Flat (6072)	<u>2,380</u>	I	Cattle	<u>52,516</u>	12/1-5/31
		7,674			157,730	
Benton	Fish Slough (6004)	39	C	Cattle/Sheep	1,496	11/1-5/31
	Volcanic Tablelands (6007)	1,310	C	Sheep	44,006	6/1-6/15
	Hammil Valley (6024)	1,964	I	Cattle	41,320	10/1-6/15
	Marble Creek (6025)	845	I	Cattle	14,791	Yearlong
	Chalfant Valley (6030)	399	C	Cattle	13,140	10/1-6/15
	Bramlette (6038)	655	I	Cattle	33,308	10/1-5/31
	Laws (6040)	186	C	Cattle/Sheep	3,065	10/1-5/31
	Jeffrey (6041)	257	C	Cattle	4,600	10/1-5/15
	Chalk Bluff (6043)	555	M	Cattle	15,807	10/1-5/15



Management Area	Allotment Name and Number	AUMs	Category	Kind of Livestock	Public Land Acres	Season of Use
Benton (continued)	Lone Tree (6053)	301	C	Cattle	3,559	10/1-5/15
	Blind Spring (6080)	<u>130</u>	I	Cattle	<u>5,870</u>	6/15-2/28
		6,641			180,762	
Long Valley	Hot Creek (6018)	445	I	Cattle	6,160	5/15-10/31
	Little Round Valley (6020)	43	C	Sheep	1,118	Unspecified
	Wilfred Creek (6022)	295	I	Cattle	6,965	6/1-11/30
	Long Valley (6044)	11	C	Cattle/Sheep	303	Unspecified
	Tobacco Flat (6045)	32	C	Cattle	380	Unspecified
	Casa Diablo (6081)	<u>40</u>	C	Cattle/Sheep	<u>2,193</u>	Unspecified
		866			17,119	
Owens Valley	Keough (6001)	29	C	Cattle	1,029	Unspecified
	Black Rock (6002)	36	C	Horse	963	Unspecified
	Round Valley Common (6008)	289	I	Cattle	5,248	6/1-10/15*
	Zurich (6012)	392	C	Cattle/Sheep	8,839	11/1-4/30
	Owens Valley (6013)	115	C	Cattle/Sheep	1,764	Unspecified
	Sawmill Creek (6015)	24	C	Cattle	2,082	Unspecified
	Owens Valley Common (6016)	32	C	Cattle/Sheep	640	Unspecified
	West Crater Mountain (6019)	331	M	Cattle	6,540	12/1-6/30
	Shannon Canyon/Baker Creek (6021)	90	C	Cattle	3,000	3/1-5/15
						10/1-12/31
	Black Mine (6023)	47	C	Cattle/Sheep	1,658	Unspecified
	Poleta (6031)	100	C	Cattle/Sheep	2,345	Unspecified
	Sherwin (6032)	97	I	Cattle	1,811	6/1-10/15*
	Tinemaha (6033)	220	C	Cattle/Sheep	3,681	Unspecified
	Alabama Hills (6046)	1,770	M	Cattle	65,234	2/1-6/30
	Red Mountain (6047)	304	M	Cattle	4,871	12/1-6/30
	West Santa Rita (6048)	8	C	Cattle/Sheep	321	Unspecified
	Aberdeen (6049)	231	C	Cattle/Sheep	4,279	12/1-5/31
	Poverty Hills (6050)	78	M	Cattle	4,354	12/1-6/1
	Wells Meadow (6051)	129	I	Cattle	1,263	4/1-10/15
	East Crater Mountain (6079)	78	M	Cattle	3,524	12/1-6/30
	George Creek (6082)	<u>183</u>	C	Cattle	<u>3,160</u>	3/1-6/30
		4,583			126,606	
Southern Inyo	None	0	—	None	0	—
Owens Lake	Ash Creek (6042)	243	C	Cattle	3,008	2/1-5/31
Resource Area-Wide Total		35,261			633,981	

\*No grazing until grazing system can be implemented to achieve improvement of deer winter range.

## Appendix 6

### Threatened and Endangered Plant and Animal Species and Related Designations

Scientific Name	Common Name	Status
PLANT SPECIES		
<i>Astragalus johannis-howellii</i>	Long Valley milkvetch	CR/C3c
<i>Astragalus lentiginosus</i> var. <i>piscinensis</i>	Fish Slough milkvetch	CE/C1
<i>Astragalus monoensis</i>	Mono milkvetch	CR/C2
<i>Calochortus excavatus</i>	Inyo County star tulip	C2
<i>Caulostromina jaegerianus</i>	Jaeger's caulostramina	C2
<i>Cusickiella quadricostata</i>	Bodie Hills draba	C2
<i>Dedeckera eurekaensis</i>	July gold	CR/C3c
<i>Eriogonum ampullaceum</i>	Mono buckwheat	C2
<i>Eriogonum eremicola</i>	Wild Rose Canyon buckwheat	C2
<i>Lupinus duranii</i>	Mono Hills lupine	C2
<i>Oryctes nevadensis</i>	Nevada oryctes	C2
<i>Perityle inyoensis</i>	Inyo laphamia	C2
<i>Phacelia monoensis</i>	Mono County phacelia	C2
<i>Sidalcea covillei</i>	Owens Valley checker-bloom	CE/C2
<i>Streptanthus oliganthus</i>	Masonic Mountain jewel flower	C2
ANIMAL SPECIES		
<i>Aplodontia rufa californica</i>	Mountain beaver	C2
<i>Batrachoseps campi</i>	Inyo Mountains slender salamander	C2
<i>Buteo regalis</i>	Ferruginous hawk	C2
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	C2
<i>Cyprinodon radiosus</i>	Owens pupfish	FE
<i>Falco peregrinus anatum</i>	Peregrine falcon	FE
<i>Gila bicolor snyderi</i>	Owens tui chub	FE
<i>Gulo gulo luteus</i>	California wolverine	2
<i>Haliaeetus leucocephalus</i>	Bald eagle	FE
<i>Hydromantes platycephalus</i>	Mt. Lyell salamander	C2
<i>Hygrofus fontinalis</i>	Travertine band-thigh diving beetle	C2
<i>Microtus californicus vallicola</i>	Owens Valley California vole	C2
<i>Oncorhynchus clarki henshawi</i>	Lahontan cutthroat trout	FT
<i>Ovis canadensis californiana</i>	Sierra Nevada bighorn sheep	C2
<i>Plecotus townsendii townsendii</i>	Pacific western big-eared bat	C2
<i>Trigonoscuta owensi</i>	Owen's sand dune snout beetle	C2
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	C2

CR = California State Rare

CE = California State Endangered

C1 = Federal Candidate Category 1

C2 = Federal Candidate Category 2

C3 = Federal Candidate Subcategory 3c

FE = Federal Endangered

FT = Federal Threatened

(See p. 268 for definitions.)

**California Rare**—A native California plant (species, subspecies or variety) is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (Section 1901 of the Fish and Game Code).

**California Endangered**—"Endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as "endangered" on or before January 1, 1985, is an "endangered species" (Section 2062 of the Fish and Game Code).

**Federal Category 1**—Category 1 comprises taxa for which the U.S. Fish and Wildlife Service currently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened. Proposed rules have not yet been issued because they have been precluded at present by other listing activity. Development and publication of proposed rules on these taxa are anticipated, however, and the U.S. Fish and Wildlife Service encourages Federal agencies and other appropriate parties to give consideration to such taxa in environmental planning.

**Federal Category 2**—Category 2 comprises taxa for which information now in possession of the U.S. Fish and Wildlife Service indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. The U.S. Fish and Wildlife Service emphasizes that these taxa are not being proposed for listing at this time, and that there are not specific plans for such proposals unless additional information becomes available. Further biological research and field study may be needed to ascertain the status of taxa in this category, and it is likely that many will be found not to warrant listing. The U.S. Fish and Wildlife Service hopes that this notice will encourage investigation of the status and vulnerability of these taxa, and consideration of them in the course of environmental planning.

**Federal Subcategory 3c**—Subcategory 3c comprises taxa that are now considered to be more abundant and/or widespread than previously thought. Should new information suggest that any such taxon is experiencing a numerical or distribution decline, or is under a substantial threat, it may be considered for transfer to Category 1 or 2.

**Federal Endangered**—The term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary of Interior to constitute a pest whose protection under the provision of the Endangered Species Act would present an overwhelming and overriding risk to man.

**Federal Threatened**—The term "Threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

## **Appendix 7**

### **Standard Operating Procedures**

#### **I. Range**

##### **A. Grazing Systems**

1. Plant phenology of key forage species for livestock and wildlife requirements will be considered in determining treatment schedules.

2. Considerations for wildlife habitat, watershed resource needs, and DPC goals will be met in grazing system design.

3. Average annual livestock grazing utilization of key forage species on meadows will be limited to 60% for any meadow grazed during the grazing season unless there is an AMP implemented or DPC goal which requires a different level.

##### **B. Grazing Management Practices**

1. Locations for salting and supplement feeding will be at least 1/4 mile away from riparian zones, aspen groves, meadows, or on sage grouse strutting grounds and sites that are highly susceptible to soil erosion.

2. Sheep will be herded.

3. Sheep bedding grounds will be designated and will not be located within 1/4 mile of riparian zones, aspen groves, meadows, or on sage grouse strutting grounds and sites that are highly susceptible to soil erosion.

4. Trailing use will be authorized and controlled. Trailing routes will be identified.

5. Livestock conversions proposed by the operator generally will be considered on the basis of resource needs, capability, and management objectives. If conversions are made mainly for convenience of the permittee, range improvement structures necessary to complete the conversion will be financed and constructed by the permittee.

6. Trampling of soils and forage utilization will be used in determining whether the limit of allowable grazing has been achieved in certain vegetation types (e.g. meadow, streamside, aspen, etc.)

7. Use fencing protection of riparian areas only where no other viable alternative exists, or in areas that consistently show resource damage or abuse.

8. Remove livestock watering facilities out of riparian zones where feasible. All new livestock watering facilities should be located as far from riparian zones as possible.

##### **C. Range Improvement Project Development**

1. Livestock watering and handling facilities will normally not be placed within 1/4 mile of riparian zones, aspen groves, meadows, or on sage grouse strutting grounds, sensitive plant habitat and sites that are highly susceptible to soil erosion.

2. Fences will not be located on sage grouse strutting grounds or sites that are highly susceptible to soil erosion. Led down fences will be constructed when the fence location will likely cause sage grouse strikes on wire as they enter/leave the lek site.

3. Construction of all fences will conform with the objectives and specifications in Bureau Manual 1737 to assure minimization of impacts to wildlife, wild horses, recreation, and visual resources.

4. Natural barriers will be considered for providing livestock movement control where possible to reduce the amount of fence construction.

5. No clearing of vegetation for fence construction and maintenance will be done, except where absolutely necessary.

6. All materials used for developments will blend in color with the surrounding terrain.

7. All existing and proposed livestock watering facilities will be designed to adequately facilitate wildlife water needs.

8. Removal of vegetation and surface disturbances will be minimized for development of facilities, and surface rehabilitation measures will be applied where feasible.

9. Spring sources that are susceptible to damage from livestock trampling will be fenced.

10. Wildlife escape devices will be installed and maintained in water troughs.



11. Analysis of cost effectiveness will be done on an allotment management plan (AMP) basis prior to the installation of any management facility or land treatment.

12. All areas where vegetative manipulations occur will be totally rested from grazing for at least two growing seasons following treatment.

13. Vegetative manipulation projects will be done in irregular patterns creating more edge (more than strip and block manipulation), with islands of vegetation left for cover.

14. Chemical treatment will consist of applying approved chemicals to control noxious or targeted plants. Before chemicals are applied, the BLM will comply with the Department of the Interior regulations and Bureau Manual 9222, other applicable regulations, and laws and court orders. All chemical applications will be preceded by an approved Pesticide Use Proposal. All applications of pesticides will be under the supervision of a certified pesticide specialist. All applicants will be carried out in compliance with the pesticide laws for California.

15. Maintenance of structural improvements shall be provided by the user deriving the primary benefit from the improvement through cooperative agreements and as specified in the Bureau's Rangeland Improvement Policy.

16. Brush control either through application of herbicides, prescribed burning, or by mechanical means will be prohibited on sage grouse breeding complexes, and wintering grounds. Herbicide use will be prohibited within 150 feet of streams.

17. Areas within 200 feet of well-travelled roads will not be vegetatively manipulated.

18. Steep drainages (over 30 percent slope) will not be vegetatively manipulated.

19. Seed from a mixture of plant species adapted to the specific site will be used for seeding. This will be a variety of browse, forbs, and grass species that are desirable for both livestock and wildlife. All seed sources will be certified "weed free."

20. Do not graze with livestock burned areas for three growing seasons following the burn (prescribed or wildfire).

## II. Wildlife

1. Wildlife habitat improvement projects will require consultation with the California Department of Fish and Game (CDF&G) prior to job layout, design and accomplishment in accordance with the existing Memorandum of Understanding between CDF&G and BLM.

2. Notify the California Department of Fish and Game one year in advance of implementation of revegetation, manipulation projects.

3. Any activity involving discharge of dredged or fill material into waters of the United States or their adjacent wetlands will be reviewed for compliance with Section 404 of the Clean Water Act.

4. Quantification of instream flows to secure favorable conditions of water flow will be accomplished over a 10 year period by priority. Priority 1 = Owens Valley, 2 = Bodie Hills/Bridgeport Valley, 3 = Coleville, 4 = Benton, 5 = Mono Basin.

5. Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practical alternative.

6. Maintain the natural channel configuration of all streams.

7. No stream modifying activities or other activities that increase sedimentation of the aquatic zone will be permitted during the following periods:

a. February 15 to August 20 for streams with resident rainbow or cutthroat trout populations.

b. October 1 to April 15 for streams with resident brown or brook trout populations.

8. No new road construction will be permitted within 150' of riparian areas unless absolutely necessary and impacts can be mitigated.

9. Keep the construction of all new stream crossings to a minimum. Culverted stream crossings will be designed and constructed to allow fish passage. All stream crossings will be designed and constructed to keep impacts to riparian and aquatic habitat at a minimum.

10. Relocate existing roads out of riparian areas where feasible or necessary to restore watershed stability.

11. Where meadows have lost their natural characteristics due to lowered water table, trampling, overgrazing, road building or other reasons, use appropriate measures to restore the meadow.

12. Manage species of special concern in a manner to avoid the need for listing as state or Federal threatened or endangered species.

### III. Minerals/Geothermal

1. Reclamation bonds will be required for all minerals actions involving the filing of a Plan of Operations.

2. Claim markers are recommended to be wooden 4" x 4" posts, although plastic pipe is permissible if no greater than 2" diameter and permanently capped or plugged at the top. Their color must harmonize with surroundings. Any existing open end pipe markers must be permanently capped or plugged. (See I.M. CA-90-159).

3. All notices of Intent (N.O.I.) will be reviewed by the Bishop R.A. geologist for undue/unnecessary degradation determination. A cultural resource clearance and sensitive plant habitat clearance will be done as a minimum.

4. A fair market value appraisal will be done for sand and gravel, cinders, and pumice.

5. All mineral operations will conform with SMARA, County, and local health and operations requirements.

6. Bonding will be required for mining plans of operation in accordance with MOUs with Inyo and Mono Counties.

### IV. Realty

1. Land will be acquired from willing sellers.

2. A site-specific Environmental Assessment will be required before disposal of any BLM land parcels. All BLM lands will be retained in public ownership, except where land exchanges would meet the objectives of the RMP.

3. Mineral leasing decisions within Inyo and Toiyabe National Forest, will conform to the respective Forest Plan.

4. Right-of-way grantees must construct or modify powerlines as directed by BLM to prevent electrocution of raptors.

5. The preferred method of land tenure adjustments (both acquisitions and exchanges) will be through exchange.

6. The Bureau will file for state appropriate water rights for all existing and any new surface water facilities on which Federal funding has been or will be expended. In addition, the Bureau will assert Federal reserved water rights for Public Water Reserves.

### V. Recreation

1. All public land within the resource area will be designated with regard to off-highway vehicle (OHV) use. All lands not specifically designated closed or limited to OHVs will be open to such use.

2. All powerlines will be designed with non-specular wire; steel powerlines will be constructed with corten steel.

3. Within two years of the RMP/EIS Record of Decision, the BLM and Inyo National Forest will commence studies to make suitability or non-suitability determinations for waterways determined eligible under the Wild and Scenic River review process.

4. Overall, OHV use will be monitored on a random basis throughout the Resource Area. ACEC's, WSAs, specially designated areas, and areas incurring resource impacts will be monitored regularly. Mitigations, where necessary, will be applied to eliminate or reduce resource problems caused or OHV use.



## Appendix 8

### Transmission Line Corridor Need Analysis

*by System Development Division, Los Angeles Department of Water & Power*

Electrical generation facilities are seldom located near large population centers. This separation is due to many reasons including the location of fuel resources in relation to electrical demand and federal, state and local laws and regulations. The distances separating the electrical generation facilities and the major load centers requires that high voltage transmission lines be constructed in order to meet the electrical demand of consumers.

Many facilities also interconnect their transmission facilities with those of other utilities. This interconnection helps to provide reliable and efficient use of available energy resources which in turn helps delay the need for construction of new and costly generation plants.

Forty-eight percent (48%) of the land in the western United States is owned and managed by the Federal Government. As such, locations suitable for linear transmission line rights-of-way across federal lands are a finite resource, being limited by laws, policies, and regulations that have been established to protect and conserve valued resources such as national parks and monuments, wilderness areas, cultural and natural resources, wild and scenic rivers and many more. Protected resource lands along with lands, withdrawn for specific uses such as military bases and Indian reservations combine to constrain utility line routing options. Adding to these legislative constraints are engineering considerations, economic impacts and federal land management prescriptions which further limit utility routing alternatives. Consequently, there is a great need for the planning of utility corridors across public lands.

This need was recognized with the passage of the Federal Land Policy Management Act of 1976 (FLPMA). Therein Congress acknowledged utility corridor planning as an effective means to minimize the cumulative environmental affects associated with the proliferation of separate rights-of-way across federal lands. The consolidation of rights-of-way should lessen adverse impacts and conserve resources by confining these impacts to specific locations where they can be effectively managed and mitigated.

On the average, California utilities presently generate approximately two-thirds of the electric energy required to serve their customers. The additional one-third is purchased from other interstate sources. For Southern California the percentage of out-of-state purchased energy is even greater than California as a whole. It is also notable that nearly one-half of the electric energy generated by Southern California utilities is produced at gas oil fueled power plants. Many of these power plants are old, are within air quality non-attainment areas, and are less thermally efficient than currently constructed power plants. These plants will eventually have to be retrofitted with extremely expensive pollution control devices in order to continue operation.

According to the "1988 Electricity Report" published by the California Energy Commission, it is projected that the energy demand for Southern California will grow on an average of approximately two percent per year over the next decade. This growth in energy demand comes about due to foreseen increases in population, as well as increased per capita use.

As evidenced by the above, southern California will continue to require new sources of electrical energy to meet its consumer's needs. However, due to public opinion and restrictive land use and environmental laws and regulations, it is doubtful that any new large electrical power plants will be constructed in Southern California. Construction of cogeneration power plants notwithstanding Southern California utilities will have to import electric energy in order to meet the needs of its customers. Fossil fuel power generation projects are being investigated in the Great Basin and Intermountain Region in addition to lands having geothermal potential. These facilities would most likely be tied into the existing transmission grid and will augment the available amount of electric energy available for transmission into California. There presently is not a sufficient capacity or number of transmission lines available to meet the import requirements. New transmission lines will have to be constructed.

There are many reasons why eastern California should be considered for utility corridors to be used for transmission of energy to Southern California.

The Owens Valley presently contains a utility corridor which is utilized by the Oregon-Sydney DC transmission line (Pacific Intertie) together with a LADWP 230-kv transmission line and two SCE 115-kv transmission lines. These lines serve to transmit electrical energy between the Northwest and Southern California as well as serving the needs of the Owens Valley.



As stated above the need for additional electricity in Southern California is expected to increase dramatically in the near future. Eastern California and the Owens Valley is strategically placed for utility corridors which would provide needed energy from new power generation resources in the Great Basin and Intermountain Region.

Certain land uses in the Mojave Desert of California, these lands being dominated by federal land ownership, preclude the routing of utility corridors. These federal land uses exclude utility corridors from crossing a block of land extending from the southeastern tip of Fort Irwin in San Bernardino County to the northwestern tip of the BLM's Saline Wilderness Study Area in Inyo County. This huge block of exclusionary federal lands bordering the eastern and southeastern portion of the Owens Valley extends over 160 miles from just north of Interstate 15 to near the Eureka Valley/Saline Valley Road and includes the Fort Irwin National Training Center, the China Lake Naval Weapons Center's Mojave B Range, the Death Valley National Monument and many wilderness study areas administratively endorsed as suitable for wilderness by the BLM.

To the west of the Owens Valley and the western portion of the Great Basin lies another even larger contiguous grouping of exclusionary federal lands which act as another barrier to utility corridors. This north-south barrier of lands extends from near Walker Pass (Highway 178) northward along the crest of the Sierra Nevada over 220 miles into Alpine County.

Considering these slightly offset north-south trending land use barriers on either side of the Owens Valley and the Bishop Resource Area, the most direct access from the western portion of the Intermountain Region and the Great Basin to the metropolitan areas of southern California would be through the Bishop Resource Area and the Owens Valley.

Less direct utility corridor routes from certain portions of the Northwest and the Intermountain Region of Nevada and Utah through the Las Vegas area are becoming severely restricted. This again is due to federal land uses primarily such as the Nellis Air Force Range, the Department of Energy's Nevada Test Site, and the Desert National Wildlife Range. This block of land extends 150 miles from southeast to northwest. Urban development around the Las Vegas area as well as wilderness study areas and the Lake Mead National Recreation Area also restrict utility corridors. The large number of already existing electrical facilities concentrated south of Las Vegas adds to electrical system reliability concerns. These routes are becoming less

feasible primarily because of growth in the Las Vegas area.

The Desert National Wildlife Range (DNWR) is administered by the United States Fish and Wildlife Service (USFWS). The DNWR is composed of 1,500,000 acres of which 826,000 is shared with Nellis Air Force Range (NAFR). Approximately 80 to 90 percent of the DNWR is presently wilderness study area. A majority of the remaining 10 to 20 percent of the DNWR consists of the high hazard ordinance testing areas by NAFR. The USFWS discourages the construction of transmission lines through the DNWR (per Mr. David Brown, DNWR).

Utility representatives have met with representatives from the NAFR in July of 1989 to discuss the possibility of routing transmission line corridors through the range. Harley Dickensheets, Chief, Facilities and Environmental Branch, of NAFR indicated that utility corridors are not compatible with the identified military uses of the Range. The area has highly controlled airspace with as many as 70 planes in a given training area and a minimum operating floor of 100 feet above ground level.

The Lake Mead National Recreation Area (LMNRA) consists of 1,468,380 acres and is another federal land use that deters utility corridor routing. The Park Service would generally oppose granting any further corridors and discourages additional transmission lines. Furthermore, if utilities were allowed to use the most direct route through the LMNRA, the route would severely impact one of the most travelled entrances to the LMNRA and would impact the Las Vegas Bay/Lake Shore Highway.

Transmission line costs depend on many conditions, the voltage of the transmission line, the type of terrain which it traverses, and the number of angle points needed. In this case, since exact location of the corridors are unknown, a rough estimate of costs must be made. The following is a list of approximate per mile costs (excluding land/right-of-way) for various transmission line voltages in 1990 dollars:

Cost of new 500kv transmission line - \$500,000-600,000/mile  
Cost of new 345kv transmission line - \$250,000-350,000/mile  
Cost of new 115kv transmission line - \$160,000/mile

Considering the economic desirability to utilize the most direct route between electric generating resources or energy delivery points within western Great Basin or Intermountain regional electric utility systems to points of uses within Southern California and the

Owens Valley, utility corridors within the Bishop Resource Area need to be established. Requiring utilities to avoid this area would require in some cases longer transmission paths resulting in greater environmental impacts, eventually impacting regional electric system reliability, and preventing the consideration of reasonable alternatives by federal agencies. All available routes into southern California must be identified so that energy needs can be met when they arise.

There are various identified geothermal resources in west-central Nevada, specifically, the Dixie Valley, Steamboat Springs near Reno, and the area near Fallon. Future utility system connection points also exist in Nevada east of the Reno/Carson City area. Transmission line routes from these resources in west-central Nevada to the Los Angeles Area would be approximately 150-200 miles longer if they were routed through the Las Vegas Area as opposed to making use of a direct corridor through the Bishop Resource Area.

An assessment of impacts of routes towards Soldier Canyon and Montgomery Pass depends to a large degree on construction restrictions and conditions imposed by land management agencies. As with most transmission lines visual impacts are generally of prime concern. Various mitigation measures can be utilized which have been previously discussed. Sensitivity as to areas of visual impacts are in the Benton Range area and Soldier Canyon/Inyo Crest.

Major visual impacts near Las Vegas are also of concern. The areas of concern are Lake Mead NRA, Rainbow Gardens/Sunrise Mountain, and a minimum of 10 miles of urban developed area. If transmission line routing is to be to the north of Las Vegas visual impacts would be in excess of 30 miles of urban development plus Red Rock Canyon Recreational Area.

The existing Boulder/IPP corridor is presently occupied by three high-voltage AC transmission lines from McCullough to Victorville and one high-voltage DC line from Utah to near Victorville. The combined transmission capability of these existing four transmission lines is approximately 4,000 MW which is slightly less than the City of Los Angeles' peak load. When a transmission line corridor such as the Boulder/IPP corridor is transmitting the major portion of the peak-load requirements of a city the size of Los Angeles, it should be considered fully developed until additional circuits are placed on separate corridors.

It is recognized that the requirements for new corridors (actually portions of a new corridor) may be environmentally less desirable than using existing developed

corridors. It was attempted to combine these portions of new corridors with existing transmission lines and corridors of other regional land-use agencies. However, with the increasing dependence of our highly automated society upon continuous electric service together with the goal to reduce dependence on oil-fired generation in the Los Angeles basin, the electric power industry must also recognize its responsibility to maintain an adequate and reliable system. This is especially true for bulk power transmission systems where outages may impact millions of customers on an area-wide basis.

The individual power systems in the Southwestern United States are designed to operate normally connected to their neighboring systems, thus forming a single, large interconnected network. The term "cascading" indicates a domino effect of system outages which is initiated by disturbances in a particular area of the network and spreads to other systems resulting in the breakup of the interconnected systems into many small subsystems or "islands." This process would inevitably result in the protracted outage of large blocks of considerable load in some of these "islands" in addition to outages of numerous generating plants and possible damage to utility and customer equipment. If automatic load-shedding relays or other protective equipment in a particular area fail to operate properly, that area may become completely de-energized for an extended period. The Northeast Blackout of November 1965 is a graphic example of such a cascading outage.

The sudden interruption of a very large power transfer between two areas of a network could initiate a cascading outage if the power level were high enough and/or protective devices such as load shedding relate schemes misoperated. For this reason, the Western Systems have avoided, where feasible, the use of multi-circuited, high-power density corridors, especially where the circuits traverse long distance.

If a new transmission line were constructed within the Boulder/IPP corridor, that is, adjacent to the four existing transmission lines, 5,000 to 6,000 MW could be scheduled over the lines occupying this corridor. If service from these critical lines were suddenly disrupted due to a disturbance, cascading instability would result in the interconnected network. The Arizona and California power systems would separate and the Southern California area would be 5,000 to 6,000 MW deficient in resources, causing a large surge of power into the deficient area primarily from the northwest via the Pacific Intertie. Computer simulations for other disturbances have shown that this surge would be more than sufficient to separate some California electric systems from the Northwest near the

California/Oregon border. This separation could mean the loss of another 2,000 MW of impact power to California, for a net of 7,000 to 8,000 MW deficiency of resources in the California systems. It is impossible to predict the exact performance of each generating plant and protective devices in each system under such conditions, but it is reasonable to expect that the amount of this deficiency could reach 8,000 to 10,000 MW with less than perfect performance of a few of these protective devices. The best performance that could be hoped for under these conditions would be a protracted outage of several thousand megawatts of load (several million customers) in California, system islanding throughout the Western Interconnected Network, and undetermined consequences in the other areas of the Western Systems where there would be a corresponding excess of 7,000 to 8,000 MW of generation.

Transmission lines adjacent to each other on a common right-of-way are exposed to simultaneous forced outages from a number of potential causes including lightning, flood, wind, aircraft, vandalism, and sabotage, among others. Of course, distance separation of individual transmission lines within a corridor helps to mitigate the potential of simultaneous forced outages.

Although corridor separation provides no absolute guarantee that transmission-related power outages will occur, it is a prudent design measure which will tend to minimize the likelihood of widespread catastrophic electrical system failures.

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